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WYOMING MINERAL YEARBOOK

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State of Wyoming

Economic Development and Stabilization Board

Cheyenne, Wyoming

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INTRODUCTION

The minerals industry is by far the largest single contributor to the valuation of the State of Wyoming. 1985 valuation on minerals produced in 1984 was $5,987,627,146. This is 71% of the state's total valuation and places Wyoming among the top ten mineral producing states in the nation.

This report outlines the distribution and status of the minerals industry in Wyoming during 1984. The primary mineral commodities produced in the state are reviewed individually and a section on historical mineral production is included in the Yearbook. This section enumerates yearly production figures for the state's primary mineral commodities: bentonite, coal, natural gas, petroleum, trona, and uranium from their first commercial development to 1984. The production projections for the next five years give an indication of growth or decline of a particular mineral commodity in both the state and individual counties. Estimates beyond five years are not made because of increasing difficulty in making accurate predictions due to changing economic factors, governmental regulation, decreasing reserves and international developments.

The narrative sections present an overview of the minerals produced in the state and the status of the mineral industry in each county.

The reader desiring more detailed information on the location of various projects or resources is referred to the Oil and Gas Map of Wyoming and the Mines and Minerals Map of Wyoming, available from the Geological Survey of Wyoming and the EDSB Mineral Development Monitoring System.

Pie charts for county mineral valuation were prepared for those counties where minerals accounted for a least 25% of the total assessed valuation.

Production figures in this Yearbook are net or taxable figures and do not include federal or state royalty production because it is not included in the assessed valuation. The difference between gross production varies from commodity to commodity because of the changes in percentage of government royalties and the variation on how much is produced from government leases and from private leases. The gross production and the taxable production are as follows:

	Oil (bbls)	Natural Gas (mcf)	Coal (tons)	Uranium (tons)
Gross Production	127,763,146*	600,137,792*	130,808,247	1,929,618
Net Production	117,289,568	447,615,295	125,931,455	1,634,262

	Bentonite (tons)	Trona (tons)	Gypsum (tons)
Gross Production	3,093,211	11,703,752	325,682
Net Production	3,083,324	10,971,209	325,682

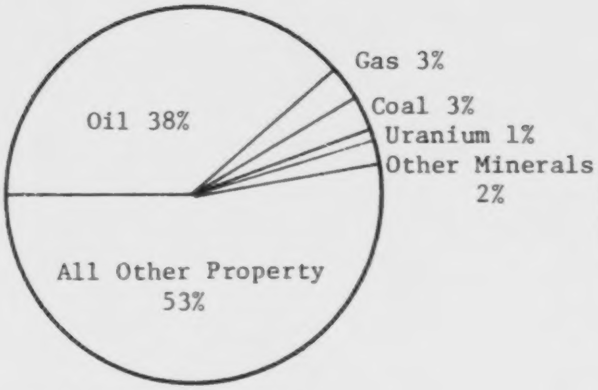
Appreciation is extended to the mineral companies of Wyoming for their assistance and cooperation in providing estimates of production during the next five years. Also, help and information provided by Lee Wooderson, Jim Felton, and Rocky Hopson of the Ad Valorem Tax Division of the State Department of Revenue and Taxation proved invaluable. Special thanks are extended to Gary Glass and his staff of the Geological Survey of Wyoming for assistance in estimating future production levels. Also, much valuable data was supplied by Don Basko of the Wyoming Oil and Gas Conversation Commission.

Any questions or comments may be addressed to:

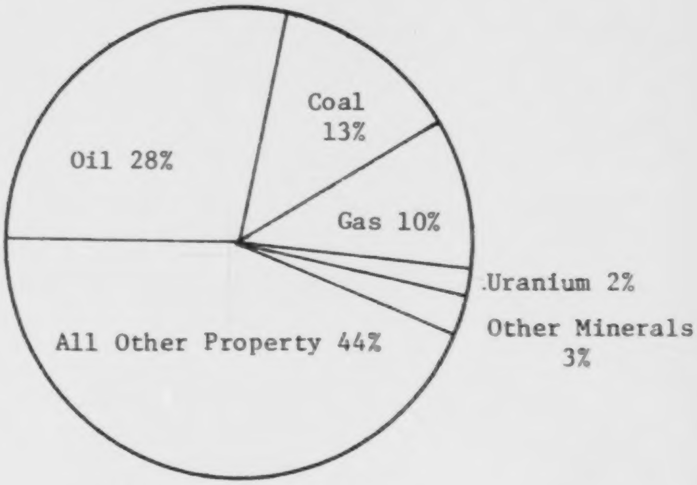
Minerals Division
Economic Development and Stabilization Board
Hershcler Bldg., 3rd Floor
Cheyenne, Wyoming 82002

*These figures are from the Oil and Gas Conservation Commission, rather than Ad Valorem Tax Division, due to the change in reporting requirements adopted by the 1980 Legislature.

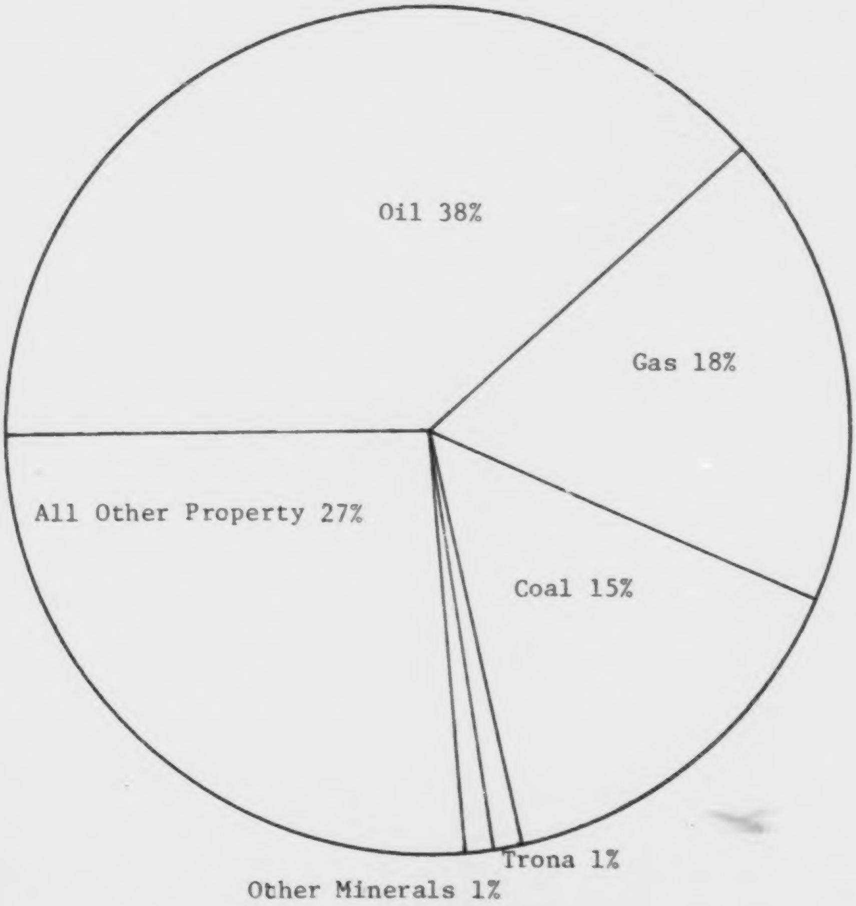
TOTAL STATE ASSESSED VALUATION 1975, 1980 and 1985



1975 Total Valuation
$2,168,456,373

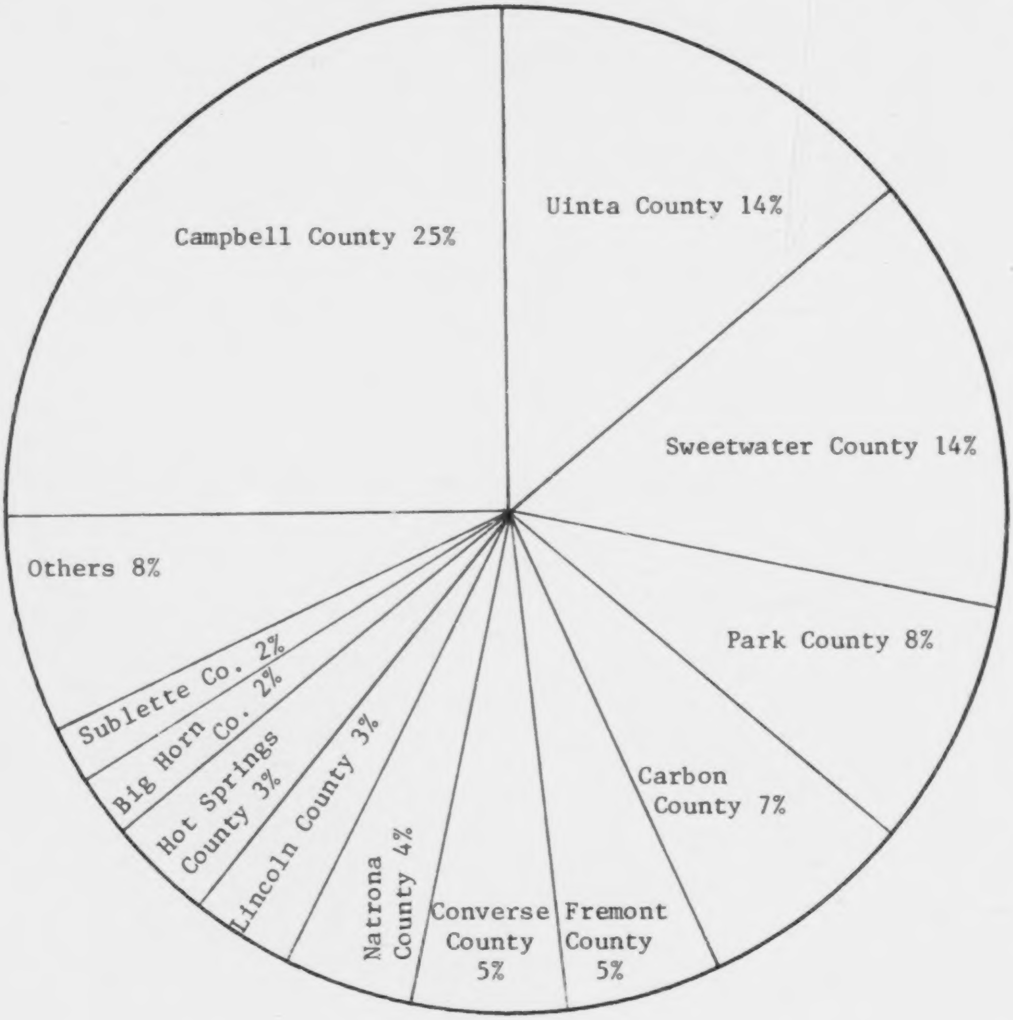


1980 Total Valuation
$4,515,133,799



1985 Total Valuation
$8,389,155,479

TOTAL STATE ASSESSED MINERAL VALUATION 1985
$5,987,627,146



WYOMING MINERAL INDUSTRY

TAX TABLES

The ten tables in this section illustrate the tax situation for the Wyoming Minerals Industry since 1969. The significance of 1969 is that was the year the severance tax on minerals was initiated.

Tables are as follows:

I Assessed Valuation on Production, 1969 - 1985.
II Ad Valorem Tax Paid on Production, 1969 - 1985.
III Assessed Valuation Per Unit of Production, 1969 - 1985.
IV Severance Tax Collections, 1969 - 1985.
V Severance Tax Rates, 1969 - 1985.
VI Severance Tax Distribution, 1983.
VII Sales and Use Tax - Fiscal Year.
VIII Government Royalty.
IX Summary Table.
X Mineral Income to the State, 1971 - 1985.

TABLE I

ASSESSED VALUATION ON PRODUCTION[1]
(In dollars)

	1969	1970	1971	1972	1973	1974	1975	1976
Oil	342,095,561	393,521,962	408,316,110	410,960,436	386,433,220	484,677,222	833,099,266	894,047,178
Oil (Stripper)								
Gas	32,568,891	35,896,344	38,876,833	42,917,421	45,799,719	56,303,866	65,041,856	88,861,898
Coal	5,158,890	6,604,717	12,823,567	15,230,522	20,220,230	36,525,380	70,658,473	124,656,316
Uranium	11,973,833	12,887,471	17,793,920	18,584,904	26,734,686	24,469,735	19,519,275	20,829,685
Trona	7,206,779	10,792,192	14,830,637	14,616,185	17,127,262	22,793,340	33,537,931	44,278,752
Others	8,435,480	10,435,621	128,127,781	13,341,962	15,654,176	18,231,793	23,009,044	26,252,467
Totals	407,439,434	470,138,307	505,453,848	515,651,430	511,969,293	643,001,336	1,044,865,845	1,198,926,296

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Oil	871,638,686	933,988,779	1,030,279,506	1,156,955,262	2,319,694,558	3,399,464,789	3,182,388,462	2,788,082,073	3,128,164,344
Oil (Stripper)	54,635,836	62,166,335	69,151,578	128,228,914	N/A	206,223,009		198,338,861	
Gas	132,925,715	223,675,393	264,389,250	456,131,295	671,087,378	978,407,639	1,132,051,442	1,258,272,277	1,484,730,803
Coal	182,641,777	299,778,223	408,906,655	572,648,542	773,633,734	989,695,692	1,113,645,140	1,151,048,135	1,230,917,455
Uranium	41,830,148	66,240,921	73,196,538	69,290,431	80,981,002	77,239,481	45,555,994	50,837,054	21,750,901
Trona	61,604,249	78,660,136	79,793,896	108,890,862	138,925,498	147,417,617	121,583,686	104,500,003	95,792,777
Others	29,872,572	33,404,356	35,025,749	41,893,010	41,828,458	49,758,099	29,578,806	26,707,789	26,270,866
Totals	1,375,149,102	1,697,914,143	1,960,744,172	2,543,038,316	4,026,165,628	5,852,764,024	5,624,803,530	5,577,786,192	5,987,627,146

Prepared by: Economic Development and Stabilization Board
Mineral Development Division
November 1985

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[1] Assessed Valuation is on the previous year's production.

Source: Department of Revenue and Taxation,
Ad Valorem Tax Division.

TABLE II

AD VALOREM TAX PAID ON PRODUCTION[1]
(In dollars)

	1969	1970	1971	1972	1973	1974	1975	1976
Oil	18,630,403	21,250,757	22,497,626	22,745,100	21,647,269	27,428,035	44,062,703	52,011,268
Oil (Stripper)								
Gas	1,818,047	2,026,025	2,231,793	2,479,267	2,735,809	3,361,474	3,791,780	5,416,016
Coal	278,203	347,724	781,847	933,916	1,125,772	2,018,242	3,991,473	7,321,256
Uranium	745,436	800,216	1,113,915	1,139,758	1,594,162	1,441,087	1,181,988	1,268,260
Trona	439,181	627,674	925,135	913,663	1,186,837	1,580,954	2,390,070	2,089,771
Others	496,108	615,480	772,514	832,974	975,059	1,122,396	1,363,208	1,648,239
Totals	22,407,378	25,667,876	28,272,830	29,044,678	29,264,908	36,952,188	56,781,222	70,754,810

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Oil	53,242,493	57,655,255	65,640,994	73,114,675	141,067,719	208,758,682	214,319,087	185,908,225	189,946,540
Oil (Stripper)	(3,337,395)	3,837,536	4,405,838	8,103,525	N/A	12,664,006		13,225,167	13,103,632
Gas	8,363,221	14,157,450	16,951,670	29,195,909	42,834,889	62,548,833	75,104,760	83,480,988	98,634,245
Coal	11,216,632	18,962,219	25,551,858	37,216,429	48,882,281	65,921,399	76,171,728	77,605,647	80,239,656
Uranium	2,661,655	4,322,847	4,948,183	4,599,360	5,407,377	4,881,942	2,931,559	3,313,587	1,348,692
Trona	4,239,604	5,898,724	5,698,082	7,783,519	10,095,716	10,416,529	8,721,198	7,630,590	7,186,374
Others	1,919,772	2,145,881	3,212,339	2,712,807	2,885,474	3,154,581	1,991,685	1,794,882	3,345,662
Totals	84,981,772	106,979,912	126,408,964	162,726,224	251,173,456	368,345,972	379,240,017	372,959,086	393,652,409

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[1] Taxes are paid on previous year's production.

Sources: Department of Revenue and Taxation,
Ad Valorem Tax Division.

Petroleum Association of Wyoming.

Prepared by: Economic Development and Stabilization Board
Mineral Development Division

November 1985

TABLE III

ASSESSED VALUATION PER UNIT OF PRODUCTION
(In dollars)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Oil (bbl.)	2.63	2.80	2.88	3.10	3.09	3.82	6.71	7.41	7.51	7.81	8.74
Oil (stripper)[1]									(11.85)	(13.01)	(13.89)
Gas (mcf)	.15	.15	.15	.15	.16	.20	.24	.36	.51	.82	.97
Coal (ton)	1.40	1.50	1.82	1.97	2.01	2.56	3.54	5.39	6.03	6.73	7.24
Uranium (ton)	6.05	7.90	8.72	9.09	11.18	9.46	8.53	7.61	12.66	16.62	13.27
Trona (ton)	2.28	2.91	3.69	3.48	3.50	3.78	4.74	6.00	7.00	7.70	8.00

	1980	1981	1982	1983	1984	1985	15 Year Increase $	15 Year Increase %	Factor of Increase Since 1969
Oil (bbl.)	10.50	20.32	32.26	29.45	26.91	26.56	23.76	903	10.03
Oil (stripper)[1]	(23.53)	N/A	(34.94)	(31.60)	(29.19)	28.41	-	-	-
Gas (mcf)	1.37	1.92	2.77	3.22	3.19	3.32	3.17	2213	23.13
Coal (ton)	8.32	8.55	10.06	10.71	10.67	9.64	8.14	643	7.43
Uranium (ton)	12.57	15.13	16.89	21.69	16.67	13.31	5.41	168	2.68
Trona (ton)	9.25	11.43	12.51	12.07	9.91	8.73	5.82	383	4.83

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[1] Stripper wells (10 bbls. per day or less) pay 4%.

Sources: Department of Revenue and Taxation,
Ad Valorem Tax Division.
Petroleum Association of Wyoming

Prepared by: Economic Development and Stabilization Board
Mineral Development Division
November 1985

TABLE IV

SEVERANCE TAX COLLECTIONS[1,2]
(In dollars)

	1969	1970	1971	1972	1973	1974	1975	1976
Oil	3,436,531	3,934,661	4,087,588	4,129,909	3,865,315	14,427,959	32,689,133	34,781,276
Gas	323,794	357,047	388,585	412,267	457,930	1,504,043	2,604,405	3,554,476
Coal	51,592	63,778	128,199	159,272	202,202	1,095,230	2,862,339	4,986,253
Uranium	119,739	128,838	178,136	186,021	267,347	244,697	390,395	416,594
Trona	72,068	107,922	148,306	146,162	171,273	683,800	1,341,517	1,771,150
Others	84,355	104,362	117,948	137,782	157,241	182,852	463,772	527,052
Totals	4,088,079	4,696,608	5,048,762	5,171,413	5,121,308	18,138,581	40,315,561	46,034,800

	1977	1978	1979	1980	1981	1982	1983	1984	1985*
Oil	35,958,264	38,602,878	42,594,321	48,842,788	212,216,807	186,209,348	173,159,464	183,652,383	80,751,913
Gas	5,317,029	8,947,016	10,575,570	18,245,252	58,704,458	71,149,850	77,010,279	89,283,848	39,697,044
Coal	17,716,252	30,277,601	42,935,199	60,128,097	103,918,048	116,873,160	121,635,765	128,444,924	67,370,660
Uranium	2,300,658	3,643,251	4,025,810	3,810,974	4,248,171	2,426,365	2,838,661	1,196,300	2,752,381
Trona	3,388,234	4,326,307	4,388,664	5,988,997	8,107,969	6,780,896	6,312,251	5,258,603	550,578
Others	597,454	668,087	700,515	837,859	995,164	740,484	461,613	325,418	138,260
Totals	65,277,891	86,465,140	105,219,989	137,853,967	388,190,617	384,180,103	381,418,027	408,171,476	191,370,836

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[1] Severance Tax is paid on previous year's production.

[2] Severance Tax will be paid quarterly starting in 1981.

*First two quarters of 1985.

Source: Department of Revenue and Taxation,
Ad Valorem Tax Division,
Petroleum Association of Wyoming.

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Mineral Development Division
November 1985

TABLE V

SEVERANCE TAX RATES

	1969	1970	1971	1972	1973	1974	1975	1976
Oil	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	3.0%	4.0%	4.0%
Gas	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	3.0%	4.0%	4.0%
Coal	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	3.0%	4.4%	4.8%
Uranium	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	2.0%	2.0%	2.0%
Trona	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	3.0%	4.0%	4.0%
Others	10 Mills (1%)	1.0%	1.0%	1.0%	1.0%	2.0%	2.0%	2.0%

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Oil	4.0%	4.0%	4.0%	4.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Gas	4.0%	4.0%	4.0%	4.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Coal	9.7%	10.1%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5%	10.5% (surface) 7.25% (underground)*
Uranium	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Trona	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Others	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

*Change made by 1984 Legislature

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Mineral Development Division
November 1985

TABLE VI

SEVERANCE TAX DISTRIBUTION (1985)

Proceeds To	Coal*	Trona	Uranium	Oil*	Gas	Other
Permanent Wyoming Mineral Trust Fund	2.5%	2.0%	2.0%	2.167%	2.167%	
General Fund	2.0%	2.0%	2.0%	2.000%	2.000%	2.0%
Wyoming Water Development Account	1.5%			.167%	.167%	
Highway Fund	1.0%	0.9%	0.9%	.666%	.666%	
Capital Facilities Revenue Account	1.5%	0.6%	0.6%			
Coal Impact Tax	2.0%					
Counties				.250%	.250%	
Cities and Towns				.750%	.750%	
Total	10.5%	5.5%	5.5%	6.000%	6.000%	2.0%

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*Stripper Oil is 4.0%.
*Underground coal is 7.25%

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Mineral Development Division
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TABLE VII

SALES AND USE TAX (FISCAL YEAR)
(In dollars)

		1971	1972	1973	1974	1975	1976	1977
Oil and Natural Gas	Sales	866,859	857,224	1,115,123	1,724,261	3,224,274	4,082,391	4,837,746
	Use	75,794	102,405	147,793	228,076	428,594	380,383	494,689
Coal	Sales	6,162	8,060	8,830	14,006	84,439	78,312	238,357
	Use	47,956	181,463	216,691	135,461	680,171	661,775	1,441,992
Metal Mining	Sales	8,522	8,837	10,961	9,763	83,042	149,608	187,762
	Use	142,472	107,287	89,826	94,839	358,945	670,004	868,173
Other Mining	Sales	98,180	86,481	115,294	270,561	405,655	429,123	459,592
	Use	187,333	312,709	462,320	865,722	895,296	727,911	1,425,173
Totals	Sales	979,723	960,602	1,250,208	2,018,591	3,797,410	4,739,434	5,723,457
	Use	453,555	703,864	916,630	1,324,098	2,363,006	2,440,073	4,230,027
	Both	1,433,278	1,664,466	2,166,838	3,342,689	6,160,416	7,179,507	9,953,484

		1978	1979	1980	1981	1982	1983	1984	1985
Oil and Natural Gas	Sales	6,803,898	8,581,968	12,348,619	16,079,610	22,035,697	15,218,668	13,361,873	11,207,576
	Use	663,220	1,270,079	1,659,281	2,037,239	7,313,596	3,523,801	3,205,904	3,289,737
Coal	Sales	318,052	463,133	519,766	841,075	734,329	559,876	504,977	859,055
	Use	1,451,495	2,327,323	1,177,761	930,267	2,747,266	3,351,329	4,620,216	5,233,499
Metal Mining	Sales	191,480	573,470	191,266	152,566	244,464	262,155	3,737	53,381
	Use	1,171,804	1,218,530	957,484	566,053	325,782	179,114	223,504	49,259
Other Mining	Sales	734,697	1,231,801	1,561,663	2,135,082	2,801,968	1,816,543	1,220,018	1,052,177
	Use	1,330,654	1,415,269	1,705,501	2,035,418	1,829,396	1,940,381	1,201,420	1,014,330
Totals	Sales	8,075,098	10,850,372	14,621,314	19,208,333	25,816,458	17,857,242	15,090,605	13,172,189
	Use	4,850,379	5,231,201	5,500,027	5,568,977	12,216,040	8,994,625	9,251,044	9,586,825
	Both	12,925,477	16,081,573	20,121,341	24,777,310	38,032,498	26,851,867	24,341,649	22,759,014

Source: Department of Revenue and Taxation

Prepared by: Economic Development and Stabilization Board
Mineral Development Division
November 1985

TABLE VIII

GOVERNMENT ROYALTY (MINERAL ROYALTY RETURNS TO STATE)
(In dollars)

1970	1971	1972	1973	1974	1975	1976	1977
18,624,702	21,085,849	19,855,029	19,412,665	33,392,197	34,450,233	49,433,822	58,971,484

1978	1979	1980	1981	1982	1983	1984	1985
69,763,079	76,523,544	95,100,847	115,062,289	119,955,519	152,195,146	165,092,468*	221,650,911**

Prior to 7/1/76 the State received 37½% of the Federal Mineral Royalties, after 7/1/76 the State received 50%.

These funds are distributed by W. S. Section 9-4-601 as follows:

Foundation Program	Highway Commission	University of Wyoming	Highway Commission for Counties	Incorporated Cities & Towns	Capitol Construction Cities, Towns, Special Districts	Capitol Construction Schools, Community Colleges and State
34 1/2%	26 1/4%	6 3/4%	2 1/4%	7 1/2%	7 1/2%	15 1/4%

Source: State Treasurer.

Prepared by: Economic Development and Stabilization Board
Mineral Development Division
November 1985

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*The percentages above reflect the changes made by the 1984 legislature.
**Amount is inflated due to carry over when reporting changed to quarterly rather than fiscally.

TABLE IX

SUMMARY TABLE

	ASSESSED VALUATION PER UNIT				SEVERANCE TAX				AVERAGE TAX LEVY (MILLS)		TAX AS A PERCENTAGE OF VALUATION-MILL LEVY PLUS SEVERANCE	
	1969	1985	Percent of Increase	Factor of Increase	1969	1985	Percent of Increase	Factor of Increase	1969	1985	1969	1985
Oil	$2.63	$26.67	903%	10.03	1.0%	6.0%	500%	6.0	54.4	64.910	6.44%	12.49%
Gas	.15	3.32	2213	23.13	1.0	6.0	500	6.0	55.8	66.432	6.58	12.64
Coal	1.40	9.64	643	7.43	1.0	10.5	950	10.5	53.9	66.519	6.39	17.15
Uranium	6.05	13.31	168	2.68	1.0	5.5	450	5.5	62.2	62.006	7.22	11.70
Trona	2.28	8.73	383	4.83	1.0	5.5	450	5.5	60.9	75.020	7.09	13.00

	AVERAGE TAX PAID PER UNIT		INCREASE PER UNIT THROUGH 1984	PERCENTAGE OF INCREASE PER UNIT THROUGH 1984	FACTOR OF INCREASE PER UNIT THROUGH 1984
	1969	1985			
Oil	$0.169	$3.73	$3.56	2107%	22.07
Gas	0.009	0.42	.411	4567%	44.67
Coal	0.089	1.67	1.58	1776%	18.76
Uranium	0.437	1.56	1.12	256%	3.56
Trona	0.183	1.55	1.37	749%	8.49

Prepared by: Economic Development and Stabilization Board
Mineral Development Division
November 1985

TABLE X
MINERAL INCOME TO THE STATE OF WYOMING 1971 - 1985[2]
(In dollars per calendar year)

Source	1971	1972	1973	1974	1975	1976	1977
Ad Valorem	28,272,830	29,044,678	29,264,908	36,952,188	56,781,222	70,754,810	84,981,772
Severance	5,048,761	5,171,411	5,121,307	18,138,581	40,315,561	46,034,800	65,277,891
Sales and Use[1]	1,433,276	1,644,466	2,166,838	3,342,689	6,160,415	7,179,457	9,953,382
U.S. Rent and Royalty Returns*	21,085,848	19,855,028	19,412,664	33,392,196	34,450,233	49,433,821	58,971,484
State Rent	2,533,127	2,548,206	2,690,933	3,030,133	3,648,785	3,372,336	3,532,586
State Royalties	5,157,428	5,008,511	4,613,961	9,429,243	10,413,284	12,160,309	15,254,011
General Fund Income (filing fees, etc.)	345,808	828,585	893,839	1,294,785	2,143,956	2,828,505	4,032,739
Total	63,877,078	64,120,885	64,164,450	105,579,815	153,913,456	191,764,035	240,903,865

	1978	1979	1980	1981	1982	1983	1984	1985
Ad Valorem	106,979,912	126,408,964	162,726,224	251,173,456	368,345,972	379,240,017	372,959,086	393,652,409
Severance	86,465,140	105,219,989	137,853,969	388,190,167	384,180,103	381,418,027	408,171,476	191,370,836[2]
Sales and Use[1]	12,925,477	18,987,778	20,121,341	24,777,310	38,032,499	26,851,867	24,341,649	22,759,014
U.S. Rent and Royalty Returns*	69,763,078	76,523,544	95,100,847	115,062,289	119,955,519	152,195,146	165,092,468	221,650,911
State Rent	3,946,697	3,504,505	4,716,653	5,487,607	6,358,149	6,547,641	5,649,863	12,261,674
State Royalties	15,560,977	16,248,479	30,814,994	51,011,313	62,113,790	64,615,059	56,726,182	59,142,728
General Fund Income (filing fees, etc.)	6,433,216	6,408,160	7,608,030	9,143,841	15,350,121	13,240,427	10,976,503	3,716,017
Total	302,074,497	353,301,419	458,942,058	646,515,667	994,336,153	1,024,108,184	1,093,917,227	904,553,589

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*Prior to 7/1/76 the State received 37.5% of the Federal Mineral Royalties; after 7/1/76 the State received 50%.
Prepared by: The Geological Survey of Wyoming.
Sources: Economic Development and Stabilization Board, Department of Revenue and Taxation, State Land Commission, and State Treasurer. November 1985

[1] This only includes Metal Mining, Coal Mining, Miscellaneous Mining and Oil and Gas.

[2] Severance Tax Collections are for the first two quarters of 1985 only.

WYOMING MINERAL COMMODITIES REVIEW
1985

BENTONITE

Bentonite is a clay mineral which is the result of the alteration of volcanic ash. Wyoming bentonite originated from volcanic ash ejected in western Wyoming and Idaho during the late Cretaceous period about 120,000,000 years ago. Prevailing westerly winds blew the ash eastward and deposited it in the areas now occupied by bentonite deposits. Wyoming bentonite occurs in the Big Horn Basin, the southern Powder River Basin, and along the western edge of the Black Hills in the northeastern corner of the state.

Bentonite is a clay mineral composed of microscopic platelets consisting of layers of aluminum hydroxide held between layers of silicate atoms. These platelets are stacked one on top of the other. Water can penetrate between layers of platelets, causing the entire structure to swell. Wyoming bentonite has sodium atoms interspersed between these layers of platelets at intervals. Other types of bentonite have calcium between the platelet layers. Sodium bentonite has greatly increased swelling characteristics. Wyoming sodium bentonite, when wet, increases as much as fifteen times its original volume.

Bentonite was used by area Indians as a bleaching clay and washing agent before the white man ventured into what is now Wyoming. Bentonite bogs or "soap holes" caused the loss of some cattle to pioneers, but it was utilized as an emergency substitute for axle grease, as a curative pack for inflamed horses' hoofs and as waterproofing for the roofs of dwellings.

Bentonite was originally named taylorite for William Taylor of Rock Creek, who first made commercial shipments of the clay in 1888. Dr. S. H. "Sam" Knight, State Geologist of Wyoming, renamed the clay bentonite when he learned that taylorite had previously been used in England as the name for another mineral. The term bentonite comes from the Fort Benton shale member of the Mowry formation, where the mineral occurs.

The first sales of Wyoming bentonite were to eastern plants for use in the manufacture of cosmetics. Production remained at a low level until the 1920's, when bentonite's usefulness as a binding agent in foundry sand and as an additive to oil well drilling mud were first discovered.

The U. S. Bureau of Mines economic mineral publications first separated bentonite from "other clays" in 1931. The Wyoming Ad Valorem Tax Division has maintained separate bentonite production statistics since 1927.

The first bentonite mill in Wyoming was constructed at Cheyenne in 1920. The bentonite used in this plant was mined near Medicine Bow. The first mills near the Black Hills, in the northeastern part of the state, were constructed at Newcastle, Osage, and Upton in 1926. Production began in the northern Black Hills near Belle Fourche in the late 1930's. Later, other high grade deposits were discovered in the Big Horn Basin and the Kaycee area of the Power River Basin.

There are seven companies presently involved in the Wyoming bentonite industry:

1. Kaycee Bentonite in the Powder River Basin.
2. The Baroid Division of N. L. Industries, Federal Ore and Chemical, International Minerals and Chemical, and American Colloid near the Black Hills.
3. Dresser Minerals, the Baroid Division of N. L. Industries, Wyo-Ben, American Colloid, and Kaycee Bentonite in the Big Horn Basin.

Wyoming bentonite production has risen from 1,141 tons in 1927 to 3,083,324 tons in 1984. The accompanying table shows historical Wyoming bentonite production.

Estimates of remaining Wyoming bentonite reserves vary widely. A report of the American Institute of Mining Engineers gives a figure of 1,149,000,000 tons of in-place reserves, while the 1980 edition of the U. S. Bureau of Mines Minerals Facts and Problems lists reserves of 200,000,000 tons.

Bentonite deposits either crop out at the surface or are buried shallowly, so mining operations consist of removing any overburden present and loading the bentonite into trucks for transport to a mill. Due to shallow burial and the loose unconsolidated nature of the surrounding sediments, no underground mining of bentonite has been attempted. When the bentonite arrives at the mill, it is segregated into piles according to physical characteristics. Materials from these piles are blended to obtain a product with the desired characteristics.

In the mill, the bentonite is first broken into small chunks, screened, and conveyed through a dryer. Temperature of the dryer is critical since temperatures that are too high can destroy the desired properties of the bentonite. Natural gas has been the fuel used in the dryers, but coal and some air drying are now utilized in several operations.

Drying removes about 25% of the moisture in the bentonite. After drying, the clay is pulverized to a variety of size ranges. After sizing, bentonite is either packed in 50, 75, or 100 pound bags or bulk shipped in covered railroad cars.

Currently the single largest market for bentonite is the oil and gas industry, which uses bentonite as a drilling mud additive. Fifty percent of Wyoming bentonite is used in drilling muds. Bentonite's colloidal properties allow heavy well cuttings to be suspended, helps lubricate drilling equipment, cakes the sides of the drill hole to prevent caving, and prevents seeping of ground water into the hole and drilling fluids out of it into surrounding rocks.

The foundry industry consumes 20% of the state's bentonite. Bentonite is used as a molding sand binder. The clay's superior binding properties allow the sand to be formed into shapes that will not fracture or disintegrate during molding operations.

Iron ore pelletizing uses 20% of the bentonite produced. In this application, fine particles of iron ore are bound into pellets for use as blast furnace feed.

The remaining 10% is used in a myriad of applications, a sampling of which are: animal feed, ceramics, water softening, cement manufacture, laxatives, crayons, paint, insecticide, reservoir liner, and medicines.

The Wyoming bentonite industry is facing a decline in markets due to a reduction in oil well drilling, the slump of the steel and automobile industries, and sluggish construction activity. Long range prospects are favorable, but bentonite production will probably flucuate in the near term.

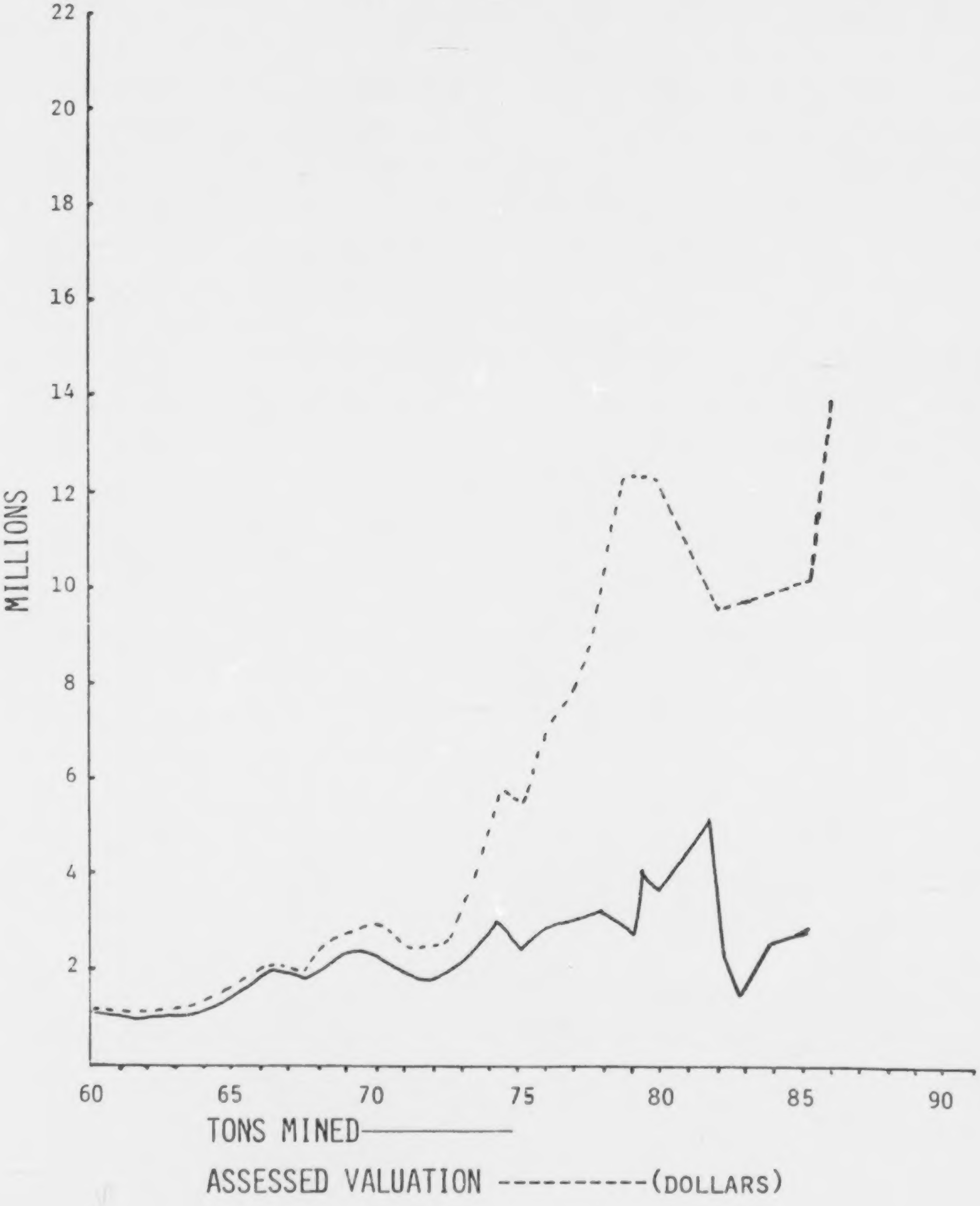
HISTORICAL BENTONITE PRODUCTION

Year	Net Tons	Year	Net Tons
1921 - 1926	Lumped with "other clay"	1954	928,837
1927	1,141	1955	886,092
1928	11,097	1956	1,215,943
1929	23,369	1957	1,073,119
1930	25,900	1958	648,404
1931	14,307	1959	1,146,001
1932	11,906	1960	1,096,850
1933	21,652	1961	1,008,756
1934	27,177	1962	1,165,538
1935	40,154	1963	1,398,106
1936	36,926	1964	1,578,528
1937	61,686	1965	1,923,319
1938	65,289	1966	2,081,352
1939	77,481	1967	1,801,966
1940	70,265	1968	2,118,871
1941	182,719	1969	2,373,253
1942	201,424	1970	2,228,978
1943	273,095	1971	1,813,066
1944	347,048	1972	2,062,384
1945	535,675	1973	2,614,779
1946	324,886	1974	3,422,675
1947	617,940	1975	2,760,871
1948	713,802	1976	3,278,765
1949	607,767	1977	3,315,783
1950	543,274	1978	3,626,652
1951	926,850	1979	4,479,242
1952	926,850	1980	3,584,713
1953	949,566	1981	4,805,005
		1982	2,345,914
		1983	2,183,865
		1984	3,083,324
		Cumulative Total	74,690,197

Source: Wyoming Department of Revenue and Taxation (net taxable tons)

BENTONITE PRODUCTION AND VALUATION

1960 - 1990



COAL

Coal results from the burial and compression of large amounts of vegetation. Increasing depth of burial results in the addition of heat which alters the original vegetation physically and chemically.

Wyoming's coal deposits accumulated during two geologic periods, the later Cretaceous and Early Tertiary, between 75 and 45 million years ago.

During late Cretaceous time, Wyoming was a low land area, periodically covered by a shallow sea which advanced and retreated from east to west. When the sea retreated, low lying coastal swamps developed where extensive vegetation grew, died and accumulated on the swamp bottoms. When the sea re-advanced, the plant material was buried by silts and clays. This cycle was repeated many times, with the earlier deposited material being buried deeper and deeper and ultimately being converted into coal by heat and pressure. Wyoming's Cretaceous coals are commonly thin, seldom exceeding 10 feet in thickness.

Conditions were different in early Tertiary Time, when the other sequence of Wyoming coals developed. The sea had disappeared, and various ranges of the Rocky Mountains had risen. A number of basins developed between these ranges, and large amounts of vegetation accumulated in these basins. These Tertiary coals are typically much thicker then the earlier deposits, with beds of 30 to 100 feet common, and a maximum known thickness of over 200 feet.

Coals are ranked according to composition and heating value. Peat, which consists of lightly compressed dried vegetation, is not considered a coal, although it is used as a fuel in Ireland and northern England. The ranks of coal are as follows:

Name	Amount of Carbon	BTU Content	Volatiles	Moisture
Anthracite	86 - 98%	16,000 - 20,000	5%	0%
Bituminous	55 - 85%	11,000 - 16,000	25%	20%
Subbituminous	30 - 55%	8,300 - 11,000	40%	30%
Lignite	10 - 30%	4,000 - 8,300	50%	40%

These ranks are divided into smaller categories in detailed classifications. Wyoming's coal is subbituminous in grade. It contains more moisture and less sulphur than many equivalent coals from the east and midwest.

The first written account of coal in Wyoming was made in 1843 by Captain John C. Fremont, "The Pathfinder". He referred to the appearance of coal in what was probably Cumberland Gap, near Kemmerer.

Captain John R. Stansbury, U. S. Army Corp of Engineers, reported seeing large outcrops of coal near Rock Springs and at Point of Rocks, twenty-five miles east of Rock Springs, in 1852.

The first use of Wyoming coal was made by the Army to heat winter quarters and in stage line forges in the mid-1800's.

The Union Pacific Railroad began prospecting for coal along its line in Wyoming in 1867, and the first coal mined by the railroad was 650 tons taken at the now abandoned Town of Carbon in 1868.

In 1908, forty years after the first production, coal mining was the leading industry in Wyoming, with a production of over six million tons, one-third of it from the Rock Springs area.

The Kemmerer Coal Company opened mines near Kemmerer about the turn of the century, and Kemmerer Coal is still operating at the present time, the longest continuous operation in the state.

Production increased up to 1947, when eight million tons were produced in the state, mostly from mines in the Hanna, Rock Springs, and Sheridan areas.

It was at this point that the railroads began the change from steam to diesel locomotives, and as demand for railroad coal decreased, Wyoming production followed it downward. The bottom was reached in 1959 when the state produced less than two million tons.

Beginning in the mid-1960's, interest in Wyoming coal, as a fuel for thermal electric generation plants, began to increase. This interest was sparked primarily by two factors, physical properties of the coal, and its cost. The physical property of Wyoming coal, which made it attractive to power plant operators, was its low sulphur content, which ranges between 0.5 and 1.5 percent sulphur. This constrasts with eastern coals which range from 5 to 9 percent sulphur. The ability to burn Wyoming coal without installation of expensive exhaust gas scrubbers more than compensated for other detrimental properties, namely low heat value and high water content.

Because virtually all Wyoming coal was strip mined, its cost of production was much less than deep mined eastern coal. In addition, large machinery and the latest technology greatly increased worker productivity, which lowered the price further.

At present, there are twenty-seven active Wyoming coal mines: twenty-six surface and two underground. These mines are concentrated in only a few areas: the Hams Fork Coal Region in Lincoln County; the Rock Springs Coal Region in Sweetwater County; the Hanna Coal Field in Carbon County; the Powder River Coal Region in Converse, Campbell, and Sheridan Counties; and one mine in the Big Horn Coal Field of Hot Springs County.

The Powder River Basin accounts for 82% of Wyoming's production and boasts the biggest surface coal mines in the nation: Amax's Belle Ayre Mine and Atlantic Richfield's Black Thunder Mine. Information on individual mines is available from the State Geological Survey in Laramie or the Minerals Division of EDSB.

Wyoming coal production has increased over 16 fold since 1971 under the impetus of power plant demand. The history of Wyoming coal production is given on the accompanying table.

The future of the Wyoming coal industry is uncertain. Several factors mitigate against Wyoming coal:

1. With the requirement of SO_2 scrubbers on all power plant smoke stacks, regardless of the sulphur content of the coal being burned, eastern and mid-western utilities are leaning toward local, higher sulphur, higher BTU coal to fuel their boilers.
2. Freight rates have reached the point where it costs up to three times as much to transport the coal as the cost of the coal itself. Under these circumstances, local coal becomes much more attractive.
3. The virtual disappearance of the Wyoming coal conversion industry has very much reduced projected in-state coal consumption.
4. Reduced electric power demand has resulted in the cancellation of generating units or entire power plants, significantly reducing potential customers.

Given these negative developments, Wyoming's coal industry is turning its attention toward new markets. One proposed new mine will emphasize the domestic market, an area of small relative demand but one which the existing large mines are not equipped to serve. The most attractive new outlet for Wyoming coal is the export market, primarily the so-called Pacific Rim nations of Japan, China, Taiwan, and the Phillipines, along with Mexico.

Acid rain legislation requiring use of low sulphur coal in power plants would result in a large jump in demand for Wyoming coal.

HISTORICAL COAL PRODUCTION

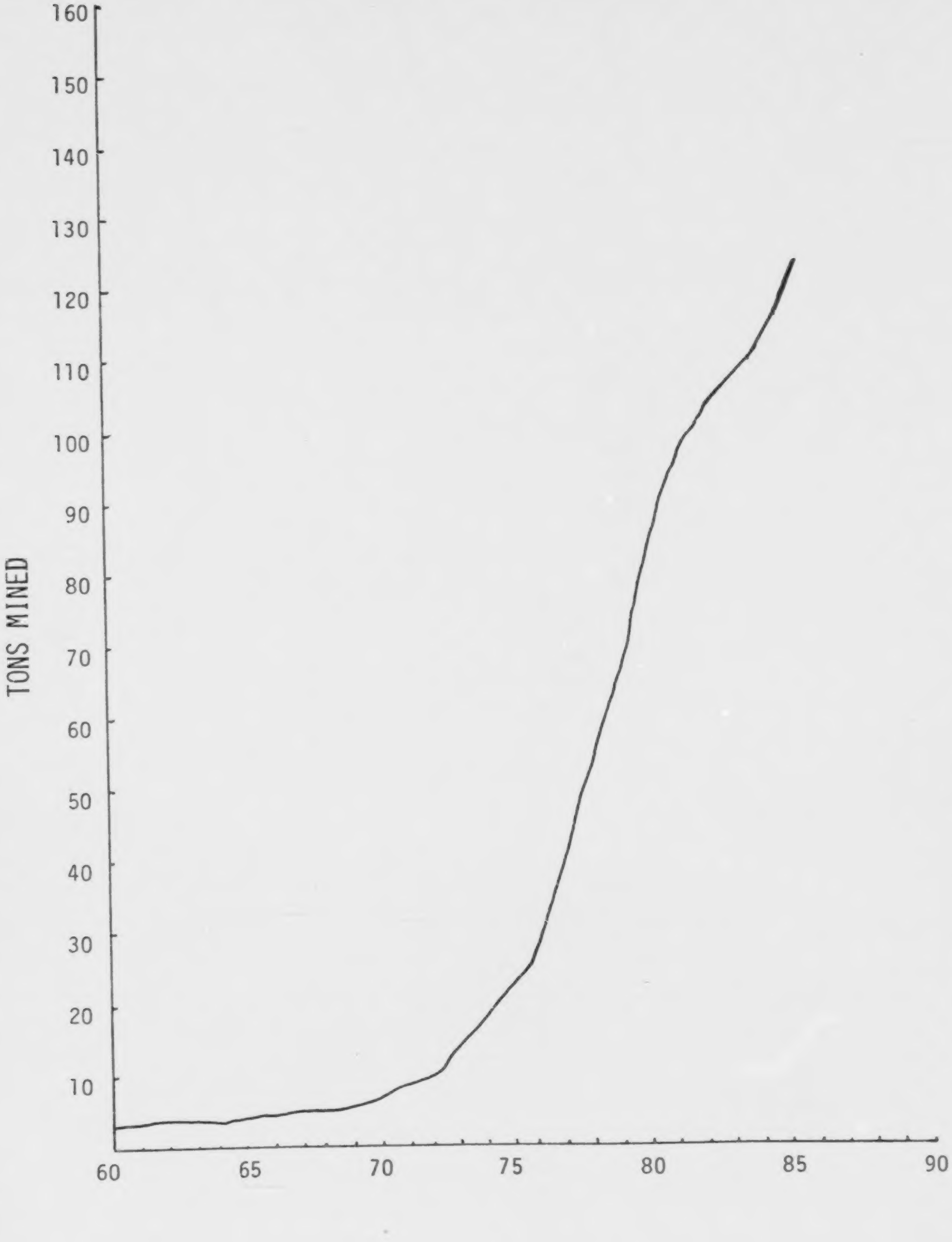
Year	Tons	Year	Tons
1865	800	1897	2,744,960
1866	2,500	1898	2,863,812
1867	5,000	1899	3,837,392
1868	6,925	1900	4,014,602
1869	58,186	1901	4,485,374
1870	105,295	1902	4,429,491
1871	147,328	1903	4,635,293
1872	221,745	1904	5,178,556
1873	259,700	1905	5,602,021
1874	219,061	1906	6,133,994
1875	300,808	1907	6,252,990
1876	334,550	1908	5,489,902
1877	342,853	1909	6,393,109
1878	233,200	1910	7,533,088
1879	400,991	1911	6,744,864
1880	527,811	1912	7,368,124
1881	628,181	1913	7,393,066
1882	707,764	1914	6,475,293
1883	779,689	1915	6,554,028
1884	902,620	1916	7,910,647
1885	807,328	1917	8,575,619
1886	835,999	1918	9,438,688
1887	1,170,318	1919	7,219,738
1888	1,512,936	1920	9,630,271
1889	1,388,947	1921	9,666,298
1890	1,870,366	1922	7,152,324
1891	2,327,841	1923	5,990,984
1892	2,503,839	1924	7,557,923
1893	2,439,311	1925	6,758,379
1894	2,417,463	1926	6,563,179
1895	2,246,911	1927	6,513,534
1896	2,229,624	1928	6,548,902

Historical Coal Production - cont'd.

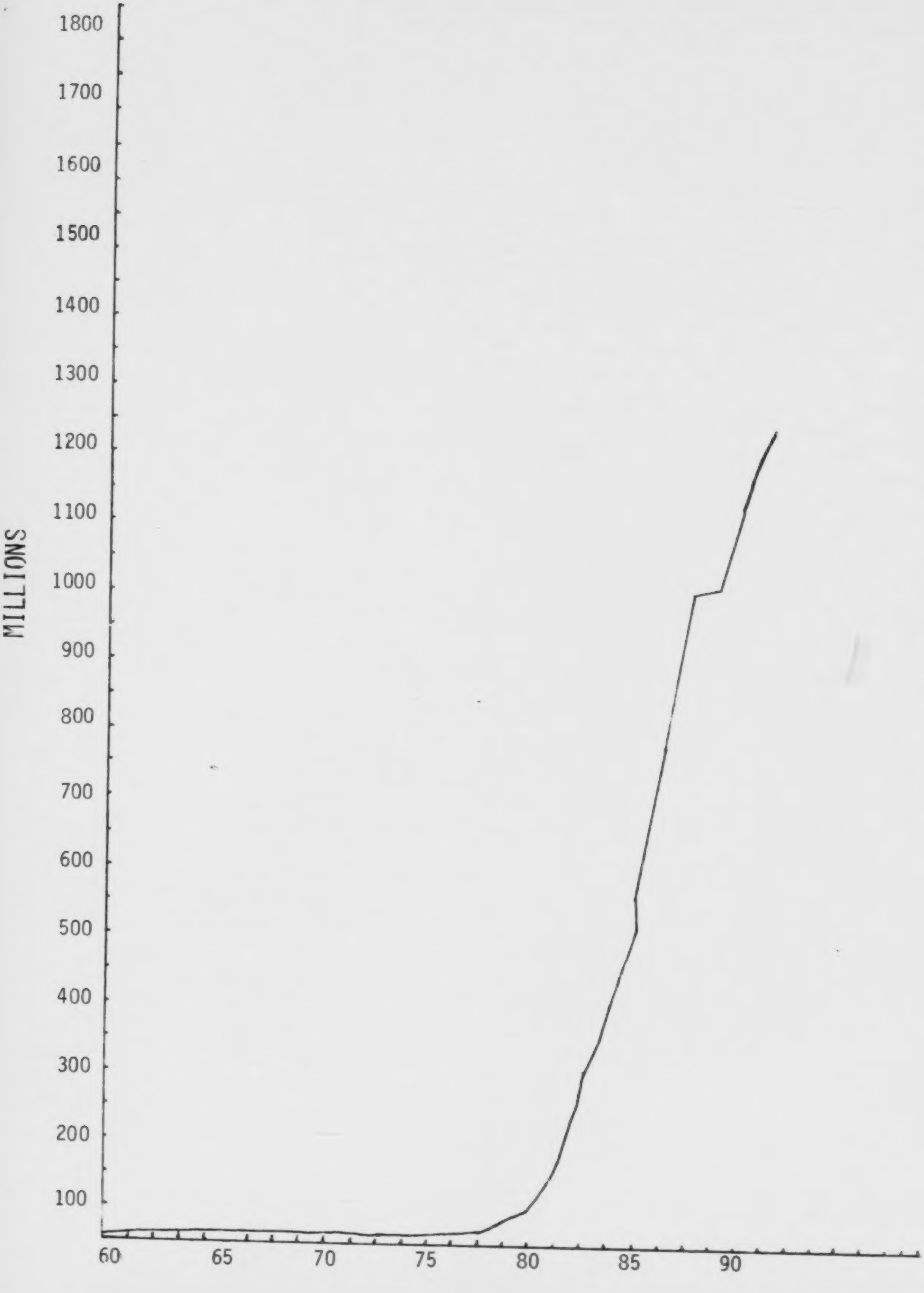
Year	Tons
1929	6,666,162
1930	6,049,282
1931	4,992,138
1932	4,146,814
1933	3,979,387
1934	4,355,791
1935	5,184,215
1936	5,868,972
1937	5,903,825
1938	5,179,074
1939	5,387,621
1940	5,824,926
1941	6,664,748
1942	8,144,972
1943	9,202,155
1944	9,561,545
1945	9,879,857
1946	7,623,968
1947	8,038,648
1948	6,413,602
1949	5,981,958
1950	6,257,416
1951	6,310,824
1952	6,088,338
1953	5,247,442
1954	2,832,636
1955	2,921,607
1956	2,555,456
1957	2,918,508
1958	1,627,063
1959	1,977,404
1960	2,006,788
1961	2,487,803
1962	2,575,531
1963	3,099,521
1964	3,117,921
1965	3,260,815
1966	3,670,704
1967	3,587,742
1968	3,683,281
1969	4,398,572
1970	7,039,980
1971	7,743,347
1972	10,043,161
1973	14,272,350
1974	19,957,726
1975	23,141,105
1976	30,298,432
1977	44,577,218
1978	56,456,133
1979	68,792,573
1980	90,527,538
1981	98,410,522
1982	104,014,096
1983	107,902,764
1984	125,931,455
Cumulative Total	1,246,375,767

Sources: Bureau of Mines (gross tons 1865 - 1921)
Wyoming Department of Revenue & Taxation (net tons 1921 - 1984)

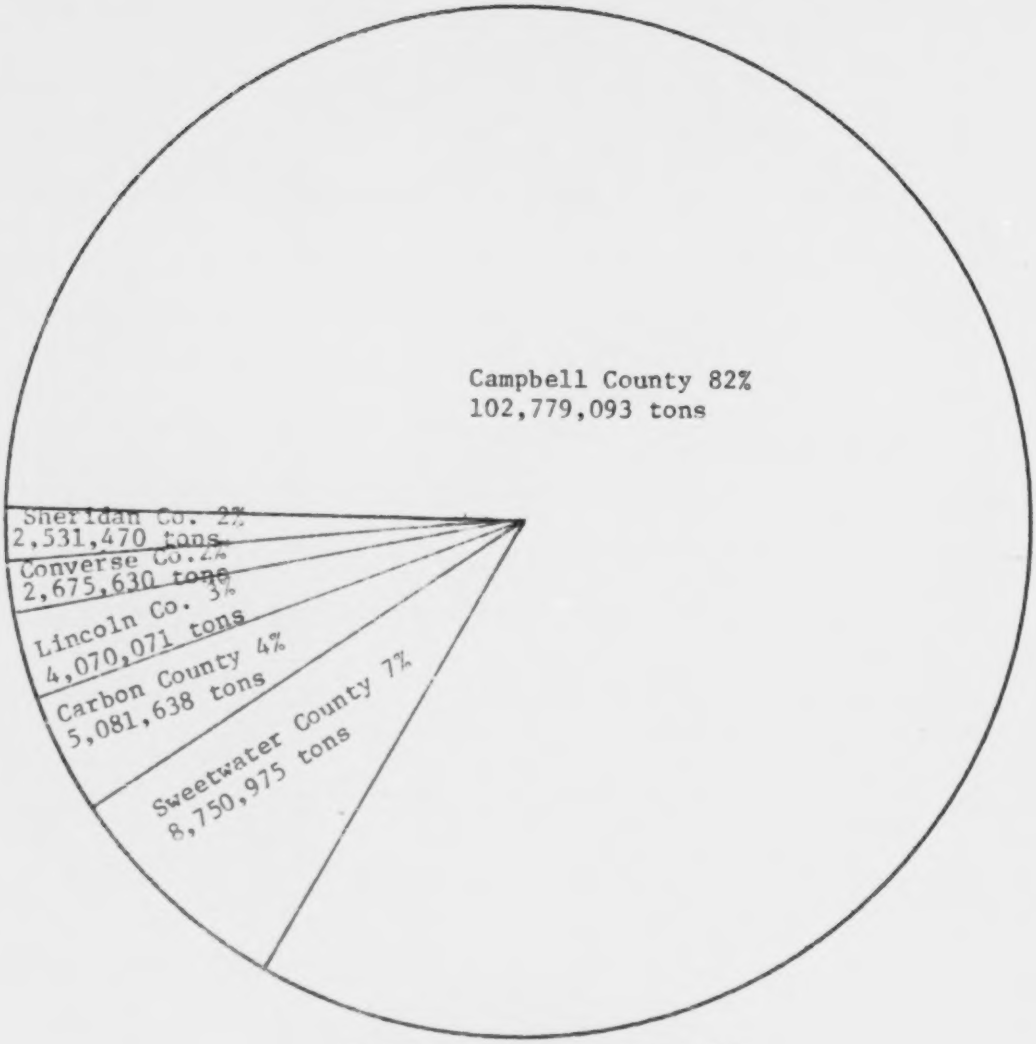
COAL PRODUCTION 1960 - 1990



COAL VALUATION 1960 - 1990



1984 COAL PRODUCTION



Total State Production 1984
125,931,455 tons

NATURAL GAS

Pure natural gas is composed of the simplest hydrocarbon, methane, CH_4. Natural gas, as it comes from the well, contains a number of different substances, including: ethane, propane, butane, and pentane (hydrocarbons), also carbon dioxide, helium, hydrogen, sulfide, and nitrogen.

Natural gas processing plants remove impurties in the gas and/or compress it to increase density in order to reach the heating standards of commercial gas. The materials removed from the gas by these plants are often valuable in themselves. Propane and butane are used as fuels, while ethane, pentane, and suplhur are utilized by the chemical industry. Hydrogen and helium are important industrial gases, while nitrogen, though often simply vented to the atmosphere, is being reinjected in secondary oil recovery in the Overthrust Belt. Carbon dioxide is also utilized in secondary oil recovery, as well as serving as an important refrigerant when in the liquid or solid form.

Natural gas occurs in three ways:

1. Free natural gas unassociated with crude oil.
2. Associated gas overlying and accompanying crude oil in the same reservoir.
3. Dissolved gas, which is gas in solution with the oil under reservoir conditions.

Pipeline quality natural gas has a heating value of about 1,000 calories per cubic foot. It burns with a bright flame, and the products of its combustion are carbon dioxide and water vapor. The high BTU output, plus the benign combustion products, make natural gas an excellent domestic fuel.

Wyoming has produced some natural gas since 1903, with early production coming from the Wind River and Big Horn Basins. Before 1918, Wyoming's natural gas production was included with Utah and Colorado, not allowing an individual state breakdown.

The Overthrust Belt leads Wyoming's geologic provinces in natural gas production followed by the Green River Basin, The Wind River Basin, and The Powder River Basin. As the Riley Ridge project comes on line overthrust production will continue to increase.

Wyoming currently ranks seventh in natural gas reserves in the United States. The three leading states, Texas, Louisiana, and Alaska, alone, account for about three-fourths of the total reserves.

Wyoming is sixth in natural gas production behind Texas, Louisiana, Oklahoma, New Mexico, and Kansas, in that order.

Industrial, commercial, and domestic heating and a fuel for industrial processes have always been, virtually, the only markets for Wyoming natural gas.

The accompanying table shows historical Wyoming natural gas production.

HISTORICAL NATURAL GAS PRODUCTION

Year	Gross MCF	Net Taxable MCF
1918*	4,338,840	
1919	6,014,000	
1920	10,312,000	
1921	15,608,000	5,729,963
1922	23,427,000	10,628,238
1923	35,523,000	25,370,247
1924	46,036,000	37,674,875
1925	45,539,000	35,432,436
1926	46,567,000	35,933,311
1927	43,581,000	36,205,467
1928	47,490,000	41,474,389
1929	44,648,000	38,253,618
1930	43,219,000	36,116,642
1931	39,770,000	34,943,043
1932	28,938,000	32,825,682
1933	25,830,000	27,716,094
1934	23,148,000	27,437,123
1935	26,643,000	29,856,668
1936	29,322,000	33,241,655
1937	31,023,000	33,418,463
1938	38,400,000	32,655,704
1939	44,700,000	28,828,909
1940	40,000,000	34,606,554
1941	43,409,000	37,242,868
1942	46,471,000	39,657,890
1943	52,000,000	40,233,211
1944	51,000,000	42,761,950
1945	52,000,000	44,571,599
1946	49,700,000	41,479,104
1947	57,740,000	47,748,881
1948	79,280,000	51,103,206
1949	87,450,000	53,948,462
1950	92,050,000	66,266,055
1951	95,600,000	73,136,179

Historical Natural Gas Production - cont'd.

Year	Gross MCF	Net Taxable MCF
1952	104,300,000	77,253,383
1953	104,900,000	77,982,000
1954	100,400,000	76,144,783
1955	100,000,000	81,457,597
1956	102,000,000	91,072,880
1957	159,000,000	113,937,978
1958	158,000,000	120,449,451
1959	194,000,000	151,611,826
1960	213,800,000	169,747,464
1961	226,800,000	185,585,937
1962	230,800,000	195,104,386
1963	240,500,000	193,637,934
1964	259,900,000	221,588,565
1965	258,900,000	218,565,497
1966	266,966,000	216,263,811
1967	257,965,000	209,582,267
1968	283,916,000	220,631,045
1969	342,998,000	243,825,419
1970	317,970,129	260,037,715
1971	310,113,187	282,320,781
1972	308,668,300	285,426,141
1973	321,134,758	287,818,223
1974	291,521,549	265,600,635
1975	273,076,164	248,528,881
1976	330,220,509	260,752,431
1977	298,535,962	272,300,637
1978	372,526,289	273,724,975
1979	390,493,988	333,322,180
1980	450,533,045**	349,634,385

Historical Natural Gas Production - cont'd.

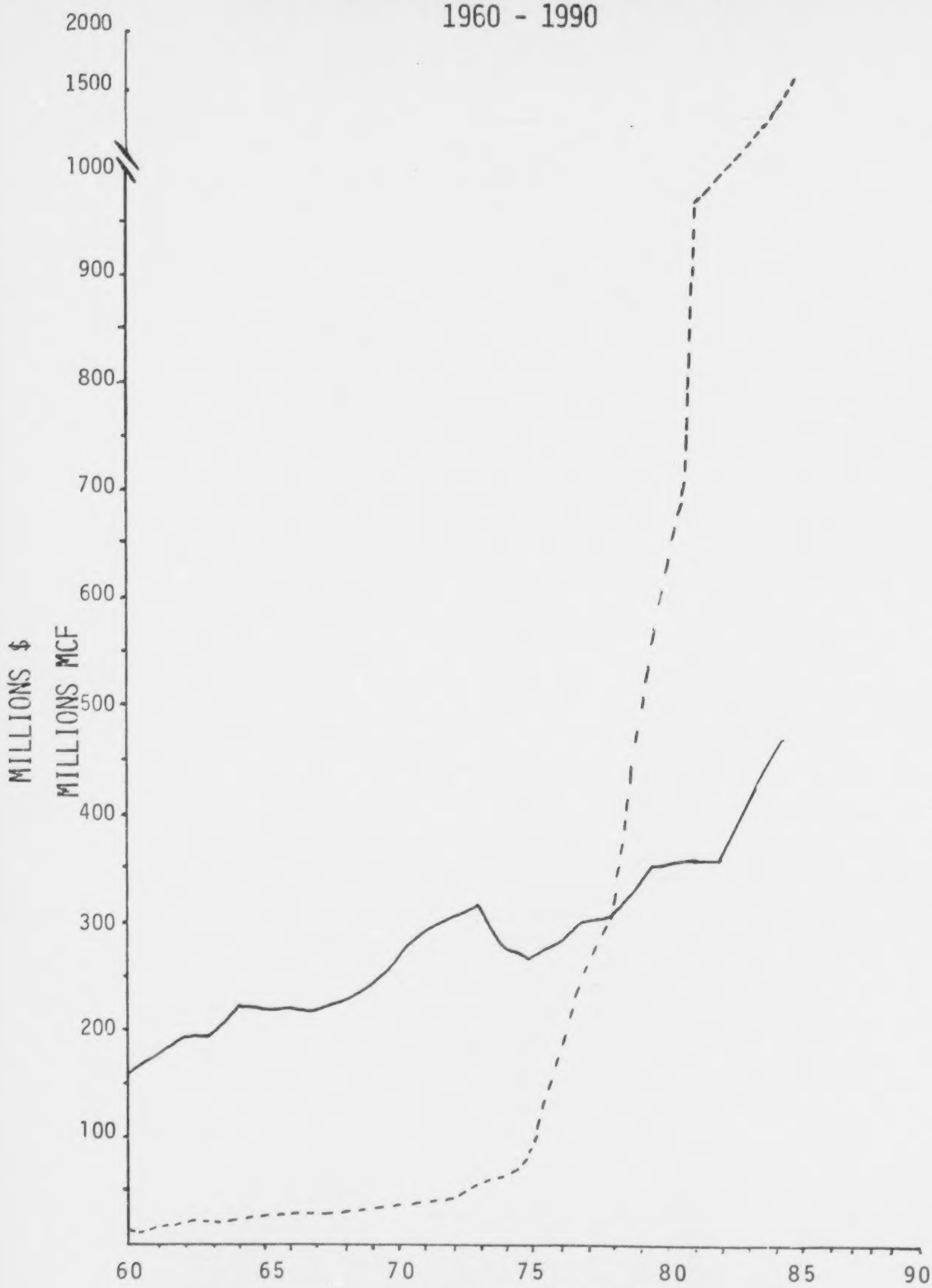
Year	Gross MCF	Net Taxable MCF
1981	437,014,500**	353,076,052
1982	459,321,013**	351,192,737
1983	539,774,090	395,656,547
1984	600,137,792	447,515,295
Cumulative Total	10,614,522,278	8,663,085,839

Sources: Bureau of Mines (1918 - 1969)
Wyoming Department of Revenue and Taxation (1970-1984)

**Wyoming Oil and Gas Commission

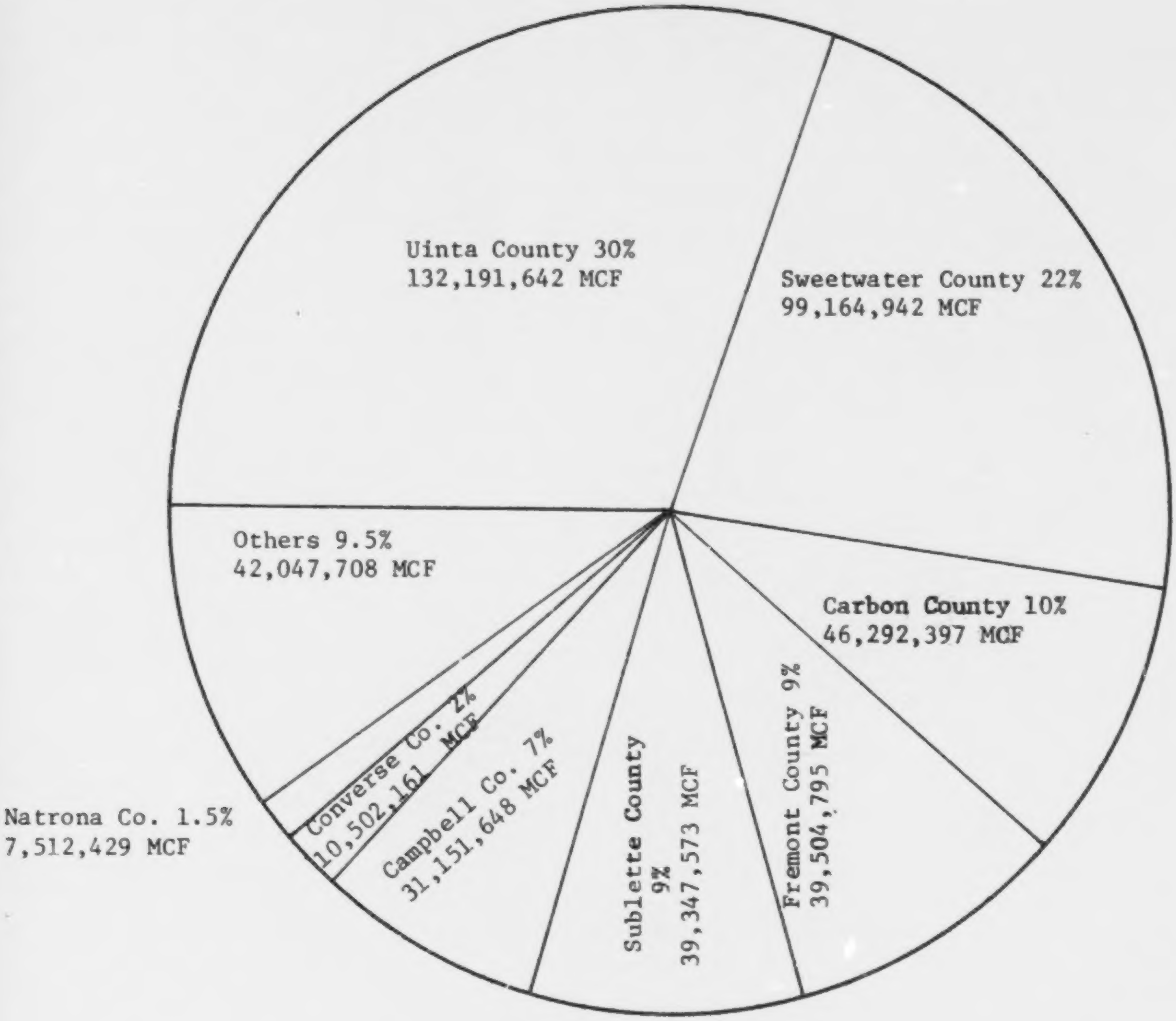
*Wyoming has had gas production since 1903, but it was included in other states.

NATURAL GAS PRODUCTION AND VALUATION
1960 - 1990



CUBIC FEET———— ASSESSED VALUATION--------------

1984 NATURAL GAS PRODUCTION



Total State Production 1984
447,615,295 MCF

PETROLEUM

The first recorded reference to the occurrence of oil in Wyoming dates back to 1833, when Captain Bonneville visited the "Great Tar Spring" on the Popo Agie River near present day Lander.

The first commercial marketing of oil occurred in 1851 from an oil seep on Poison Spider Creek, west of present day Casper. Records indicate that Jim Bridger, Kit Carson, and others mixed the oil with flour and sold the product to settlers as axle grease.

The first oil field was discovered by Mike Murphy in 1884, when he drilled a 300 foot well near the "Great Tar Spring". This field, Dallas Dome, is still producing oil, 100 years after its discovery.

Pennsylvania Oil and Gas Company built the first small refinery in Wyoming at Casper in 1895. During the period 1900-1920, drilling revealed several of the state's largest fields, including Oregon Basin and Elk Basin in Park County, Garland in Big Horn County, and Lost Soldier in Sweetwater County.

The lack of nearby markets and the high cost of transporting oil by rail, resulted in low demand for Wyoming oil, and crude prices dropped to as low as 10¢ per barrel in the 1930's. It was not until World War II that development moved into full swing. This expansion continued into the 1970's.

Oil is derived from the alteration of organic matter by heat and pressure. Petroleum originates in sedimentary rock environments, but may migrate to other locations, so that there are oil reservoirs known from volcanic and metamorphic rock sequences as well. Most oil is found in sedimentary rocks, in occurrences which may be divided into structural or stratigraphic traps. A structural trap is one where the oil is maintained in place by mechanical means, such as folding, faulting, or some combination of the two. Stratigraphic traps involve a change in rock type, from permeable to impermeable, with the oil held in the permeable portion. A stratigraphic unit which changes from a sandstone (permeable) to a shale (impermeable) is an example of a stratigraphic trap. Most of the early discoveries in Wyoming were in large structural traps with obvious surface expression. Modern exploration is focused on deep, subtle structures using sophisticated seismic techniques to discover new reserves. The delineation of stratigraphic traps is based on careful analysis of trends and rock types along with the application of interpretation and imagination by petroleum geologists.

Reservoir rocks in Wyoming range from Tertiary to Precambrian in age. In general, fields in stable interior basin areas are characterized by stratigraphic traps and produce from younger (Cretaceous and Tertiary) formations. Fields in more highly deformed basin margins are usually characterized by structural traps, and production is from older rocks.

The largest oil producing regions in Wyoming, in order, are: the Powder River Basin, Green River Basin, Big Horn Basin, Overthrust Belt, and Wind River Basin.

In 1984, a total of 1,693 wells were drilled in Wyoming: 1,187 development wells, and 506 exploration wells. The majority of both exploration and development wells over the past ten years have been drilled in the Powder River Basin.

Early oil production in Wyoming peaked in 1923, after discovery and development of large fields, such as: Salt Creek, Elk Basin, Oregon Basin, and Hamilton Dome. A long period of decline followed these early discoveries until the second World War led to a resurgence which continued to 1970, when the maximum annual production of 155,743,349 barrels was recorded. Since 1970 production has been steadily declining, due to depletion of the old large fields, like Salt Creek. At present, over 50 percent of Wyoming's production comes from ten large fields which average over 50 years in age. Newer discoveries in the state are concentrated primarily in Campbell County (Hilight, Raven Creek, Hartzog Draw fields) and the Overthrust Belt.

Wyoming ranks sixth in crude oil production, behind Texas, Alaska, Louisiana, California, and Oklahoma. However, it dominates Rocky Mountain production, with 44% of the production from the area, and 64% of the reserves.

The dominant use of petroleum is as a fuel for internal combustion engines or industrial and residential heating. However, petroleum derivatives are used to manufacture many kinds of lubricating and hydraulic fluids, fibers, medicines, plastics, and a number of other products, ranging from paints to synthetic rubber.

Although production has been slowly declining, valuation of oil production in Wyoming increased dramatically since the initiation of OPEC price increases in the early 1970's, and since decontrol of domestic oil prices in 1980. In 1981, oil production accounted for 44% of the total state valuation, some 3.6 billion dollars. Oil valuation has declined since 1981 and valuation may stabilize or even decrease in the short term, but petroleum will remain the state's most valuable mineral product.

Currently, six refineries are operating in Wyoming with a total capacity of 175,000 barrels per day. These refineries can process less than half of Wyoming's daily crude oil production, the remainder being transportated by pipeline to neighboring states.

The most recent estimate of discovered oil reserves in Wyoming, made by the American Petroleum Institute, reports a total state reserve of 800 million barrels. This figure has been declining steadily since 1971, and although new discoveries in the Overthrust Belt will slow the decline, the downward trend will continue.

The jump in production seen in 1984 is due to liquids stripped in the

Overthrust gas processing plants being included in oil production.

Given new exploration techniques, along with enhanced recovery methods which are coming into increasing use, Wyoming will continue to lead the Rocky Mountain region in oil production for some time. If oil shale utilization ever reaches large scale fruition, Wyoming will be a significant oil producer well into the next century.

HISTORICAL PETROLEUM PRODUCTION

Year	Gross Bbls.	Net Taxable Bbls.
1894	2,369	
1895	3,455	
1896	2,878	
1897	3,650	
1898	5,475	
1899	5,560	
1900	5,450	
1901	5,400	
1902	6,253	
1903	8,960	
1904	11,542	
1905	8,454	
1906	7,000	
1907	9,339	
1908	17,775	
1909	22,137	
1910	115,430	
1911	186,695	
1912	1,572,306	
1913	2,406,522	
1914	3,560,375	
1915	4,245,525	
1916	6,234,137	
1917	8,978,680	
1918	12,596,287	
1919	13,172,000	
1920	16,831,000	
1921	19,333,000	16,066,125
1922	26,715,000	16,926,406
1923	44,785,000	21,769,826
1924	39,498,000	35,714,747

Historical Petroleum Production - cont'd.

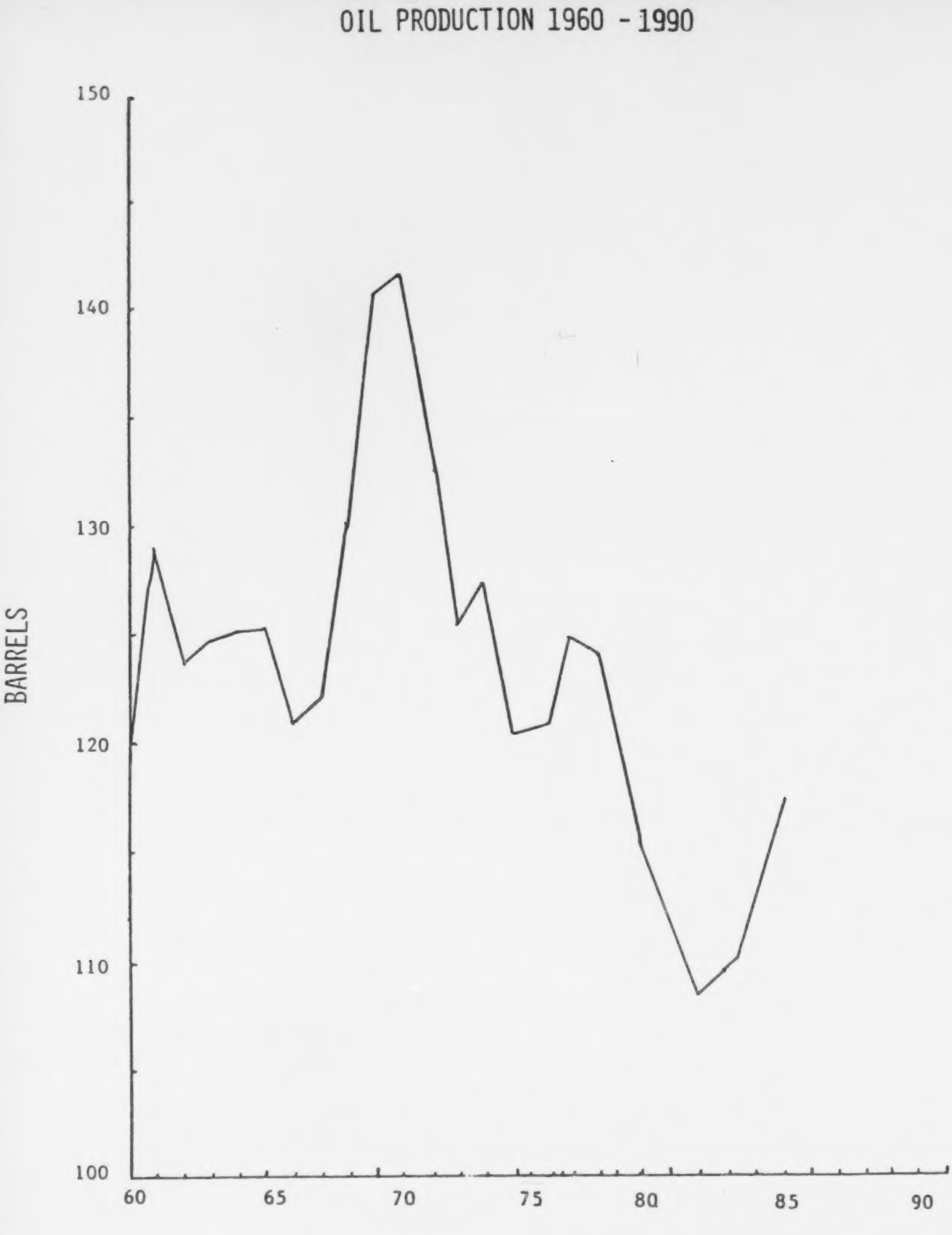
Year	Gross Bbls.	Net Taxable Bbls.
1925	29,173,000	32,495,306
1926	25,776,000	24,753,727
1927	21,307,000	21,681,708
1928	21,461,000	18,508,699
1929	19,314,000	16,895,390
1930	17,868,000	15,639,170
1931	14,834,000	13,008,011
1932	13,418,000	11,353,006
1933	11,227,000	10,124,504
1934	12,556,000	11,108,115
1935	13,755,000	12,247,316
1936	14,582,000	13,062,296
1937	19,166,000	17,704,873
1938	19,022,000	17,781,813
1939	21,454,000	20,465,457
1940	25,711,000	24,242,112
1941	29,878,000	28,378,725
1942	32,812,000	30,259,013
1943	34,253,000	31,454,751
1944	33,356,000	30,554,213
1945	36,219,000	33,253,522
1946	38,977,000	35,847,249
1947	44,722,000	40,662,626
1948	55,032,000	49,978,630
1949	47,890,000	44,150,095
1950	61,631,000	56,411,712
1951	68,929,000	63,444,374
1952	68,074,000	62,723,252
1953	82,618,000	76,839,278
1954	93,533,000	85,005,784
1955	99,483,000	91,006,385
1956	104,830,000	96,278,109

Historical Petroleum Production - cont'd.

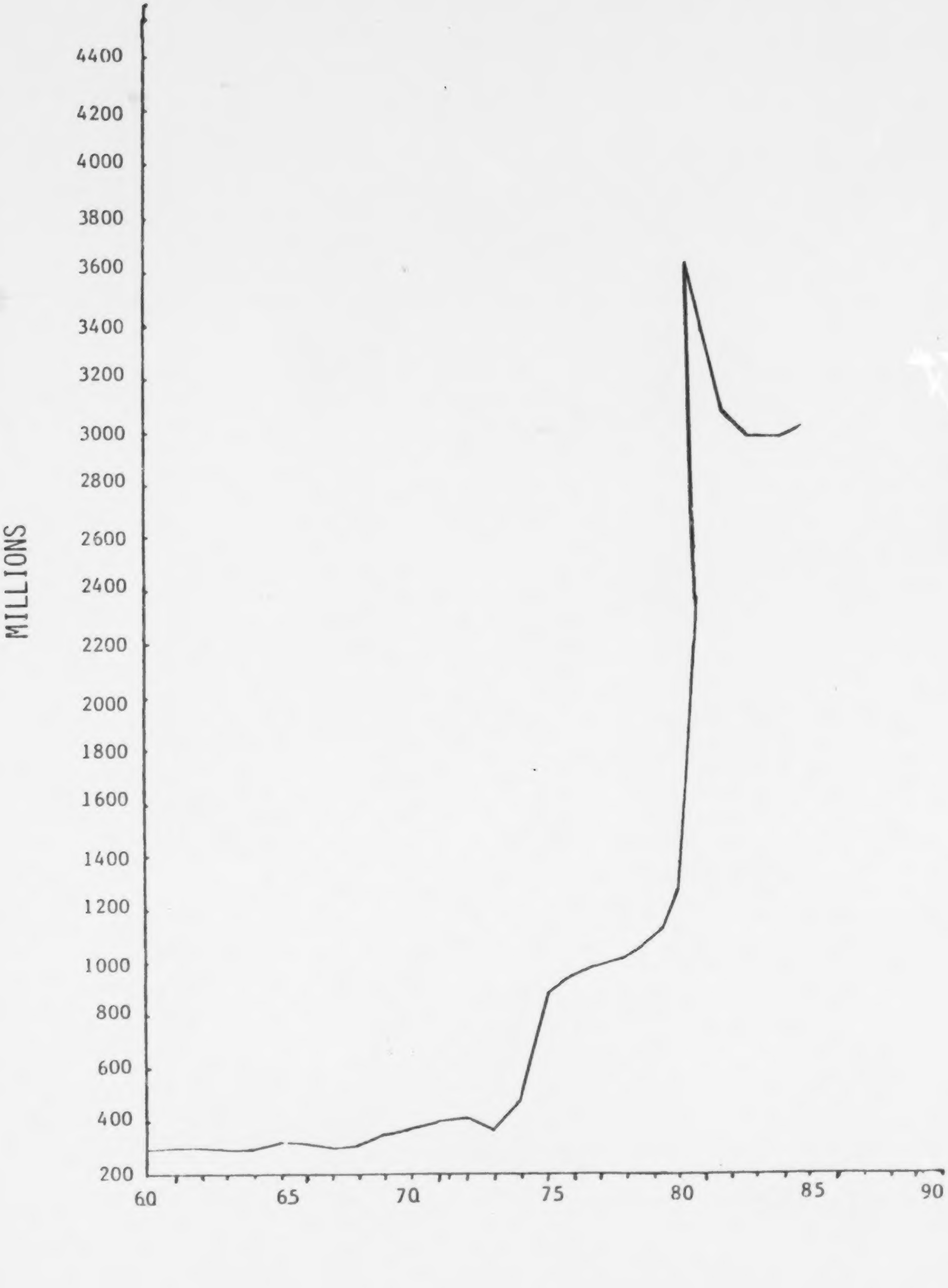
Year	Gross Bbls.	Net Taxable Bbls.
1957	106,616,000	100,373,021
1958	109,584,000	103,483,116
1959	125,968,000	113,643,205
1960	133,910,000	121,097,650
1961	141,937,000	128,657,407
1962	135,847,000	123,381,779
1963	144,407,000	123,852,669
1964	138,752,000	125,376,557
1965	138,314,000	125,136,181
1966	134,470,000	121,638,887
1967	136,310,000	122,816,724
1968	144,250,000	129,985,723
1969	154,945,000	140,522,875
1970	155,743,349	141,546,503
1971	146,261,295	132,588,059
1972	137,564,566	125,222,375
1973	139,054,568	126,943,274
1974	138,735,974	127,555,252
1975	132,237,026	120,629,951
1976	134,148,510	120,571,157
1977	135,994,695	124,328,857
1978	137,384,886	122,799,348
1979	126,669,861	115,678,022
1980	126,361,962*	114,284,682
1981	118,844,000*	111,912,600
1982	117,898,667*	108,055,462
1983	120,979,721	110,420,981
1984	127,763,146	117,289,568
Cumulative Total	5,174,218,880	4,627,283,210

Sources: Bureau of Mines (1894-1969)
Wyoming Department of Revenue and Taxation (1970-1984)

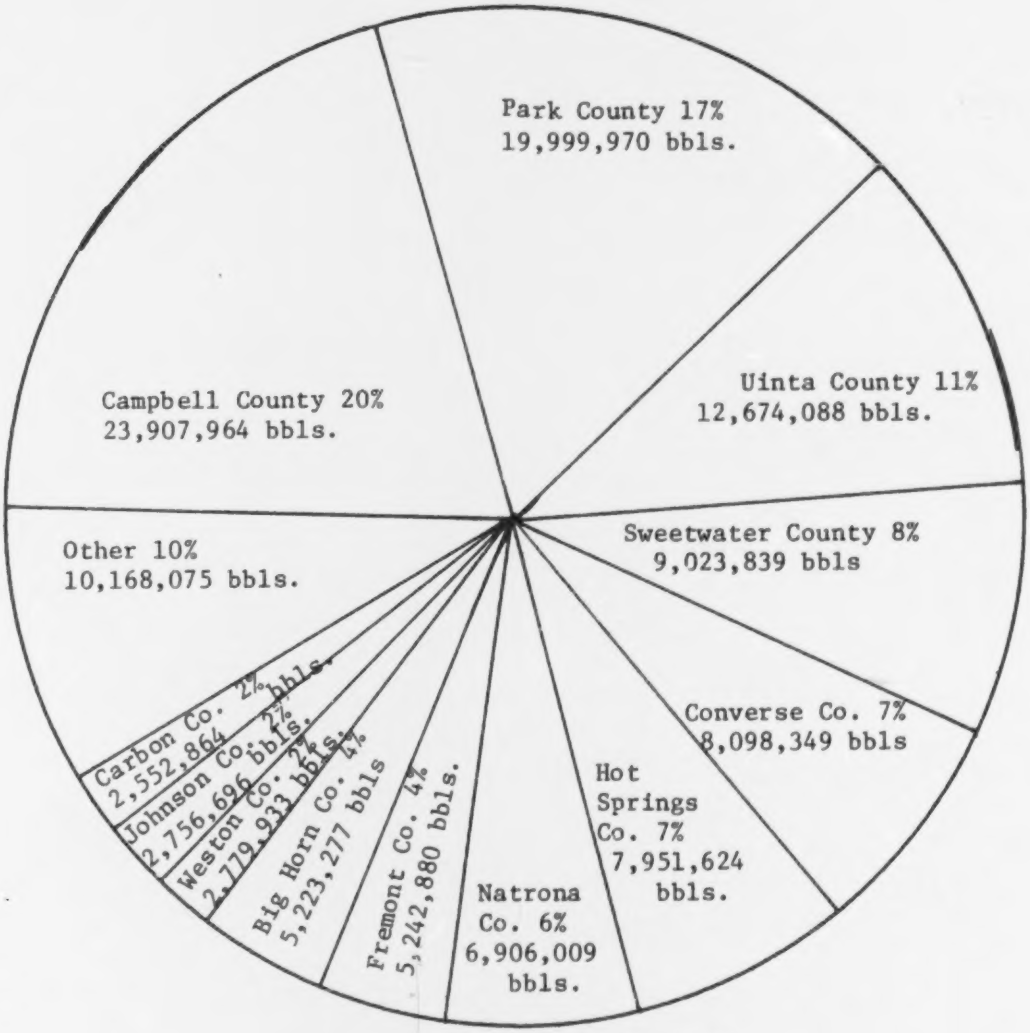
*Wyoming Oil and Gas Commission


OIL PRODUCTION 1960 - 1990
BARRELS
150
140
130
120
110
100
60
65
70
75
80
85
90

OIL VALUATION 1960 - 1990



1984 CRUDE OIL PRODUCTION



Total State Production 1984
117,289,568 Barrels

TRONA

The world's largest deposit of trona is found in Wyoming's Green River Basin. From the deposit, the state produces about 95 percent of the nation's supply of natural soda ash. Several deposits of natural soda ash are known in the western United States, but only Wyoming and California have active mines. Deposits have also been identified in several other countries, but the only one currently producing is Kenya.

Trona is a water-bearing sodium bicarbonate compound with many uses. Trona originated as a precipitate from a large fresh-water lake, Lake Gosiute, which covered as much as 15,000 square miles of surface in southwestern Wyoming. The trona was precipitated when Lake Gosiute underwent a period of restricted circulation and became highly saline at the same time as elevated temperatures resulted in increased evaporation.

More than 40 individual beds of trona underlie an area of about 1,300 square miles. It is estimated that some 50 billion tons of mineable trona, plus an additional 30 to 40 billion tons of marginal trona, are contained in these beds.

In 1938, Mountain Fuel Supply Company drilled an oil and gas test well northwest of Green River, Wyoming, and discovered a brine rich in trona. Exploration by the Union Pacific Railroad, in 1940-1942, indicated the presence of extensive reserves of trona. In 1946, Westvaco, the predecessor of FMC Corporation, sank a 1500 foot shaft to the main trona deposit and constructed a pilot refinery at the surface. The first soda ash was produced by FMC in 1950, with Stauffer Chemical coming on line in 1962, Allied Chemical in 1968, Texasgulf in 1975, and Tenneco Oil Company in 1982.

All Wyoming trona mining is done underground. Room and pillar methods and coal mining equipment, modified to withstand the harder ore, are used.

Both conventional and continuous mining techniques have been traditionally used, but recently long wall mining has been successfully employed.

In the past, soda ash was primarily produced synthetically by the Solvay process. This process combines salt (sodium chloride) and calcium carbonate (limestone) to make sodium carbonate (soda ash). The last plant using the Solvay method was shut down. The Solvay plant shutdowns were the result of high capital, labor, and energy requirements, but the greatest factor was the environmental considerations. For each ton of soda ash produced by the Solvay process, about 1.7 tons of waste are generated, which poses an enormous disposal problem.

Trona is refined by first subjecting the ore to a heat of 400°F to remove water of crystallization, combustible materials, and carbon dioxide. This crude soda residue is then taken into water solution and filtered to remove insoluable residues. The filtered material is then dried. The final product is pure soda ash.

Trona's primary use is in glassmaking, which takes around 55% of the United States' consumption. The chemical industry accounts for 23% of consumption, followed by soap and detergent at 5%, pulp and paper manufacturing at 4%, water treatment at 3%, and 10% in various applications including pharmaceuticals, photography, metallurgy, and petroleum refining.

Wyoming trona production has grown from 29,658 tons in 1950, to 10,971,209 tons in 1984. Valuation of 1984 production was $95,792,777. The short-term future of Wyoming trona is less favorable than earlier predictions, due to slumps in housing and the automobile industry, two prime users of glass, which is trona's most important market. In the longer term, significant growth in Wyoming's trona market would seem to be likely to come from Europe, where most soda ash is currently produced by the Solvay process, with the same problems there as in this country.

China has expressed interest as well, but she has abundant raw materials for Solvay extraction, and is currently building a large plant to utilize them using this process.

Whatever the demand, Wyoming possesses the resources to meet it. If trona had been mined at the current rates since the year 1 A.D., only 20% of the known reserves would have been depleted, and if mining had proceeded at the same rate since the rise of the first dynasty in Egypt, 50% of the known reserves would still remain untouched.

An annual compilation of trona production in Wyoming is given in the following table.

HISTORICAL TRONA PRODUCTION

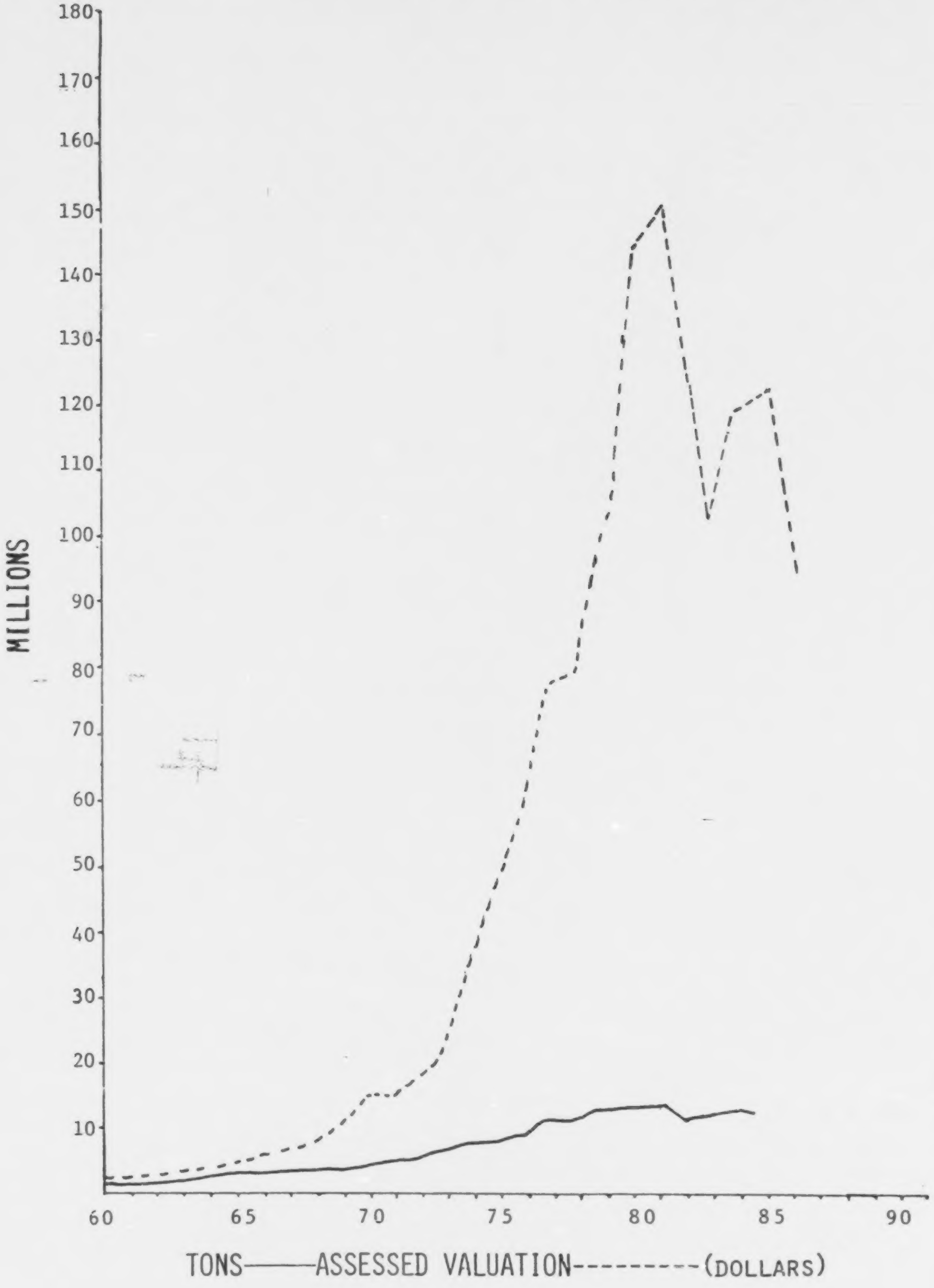
Year	Net Tons
1950	29,658
1951	76,769
1952	56,733
1953	262,001
1954	465,851
1955	529,311
1956	541,456
1957	633,917
1958	564,474
1959	747,164
1960	862,879
1961	809,762
1962	1,082,119
1963	1,200,525
1964	1,480,746
1965	1,782,745
1966	2,147,390
1967	2,323,475
1968	2,793,325
1969	3,708,657
1970	4,022,304
1971	4,203,677
1972	4,783,946
1973	6,029,984
1974	7,070,617
1975	7,379,792
1976	8,800,607
1977	10,215,602

Historical Trona Production - cont'd.

Year	Net Tons
1978	9,974,237
1979	11,771,985
1980	12,159,241
1981	11,787,731
1982	10,073,690
1983	10,542,417
1984	10,971,209
Cumulative Total	151,885,733

Source: Wyoming Department of Revenue and Taxation

TOTAL TRONA PRODUCTION & VALUATION



URANIUM

Uranium was discovered as an element in 1789 and isolated as a metal in 1842. A few minor uses for uranium salts and medical demand for radium created a small market in the 1920's and 1930's. So little was known about possible ore sources in the United States that the uranium ore used in the production of the two atomic bombs dropped on Japan came from the Belgian Congo. The Atomic Energy Commission was appointed by President Truman in 1946. In the late 1940's and early 1950's the public was encouraged to prospect for uranium and the first great uranium rush was on.

Uranium is a widespread, though uncommon, primary constituent of crystalline rocks of the earth's crust. As a result of weathering processes, it is often removed from these source rocks and redeposited in sediments. Uranium deposits are known from rocks as old as Precambrian, and as recent as Pleistocene, and all ages in-between.

The most important deposits of uranium in Wyoming occur in permeable sandstones of Tertiary age. The uranium was originally contained in the crystalline rocks which form the cores of the state's mountain ranges. The uranium was leached from these rocks and precipitated in the much younger sandstones.

Uranium ore is recovered by open pit, underground, and solution mining methods. Open pit and underground mining is carried out in the usual manner, the only difference being that the material to be removed is determined by using a scintillation counter to delineate the radioactive ore.

In solution mining, a shaft is drilled into the ore body. Chemicals are introduced down this shaft which dissolve the uranium out of the rock. The uranium-containing solution is removed through another well or wells drilled to the depth of the ore body. The solution on the surface is processed much as the solutions obtained by conventional milling methods to remove the dissolved uranium. Due to the toxic nature of the solutions used, great care must be exercised in solution mining operations to prevent ground water contamination.

Milling involves grinding and crushing the ore, after which it is treated with acid to take the uranium into solution. The leachate is treated with various chemicals to concentrate the uranium and simplify it chemically. The final concentrate is evaporated to yield "yellow cake". The yellow cake consists almost entirely of uranium 238 and a small percentage of uranium 235, the fissionable isotope. The uranium must be enriched to around 3.5% U 235 for power reactor use, while weapons grade material has a U 235 content of over 90%. The yellow cake is shipped to various conversion and enrichment facilities to be upgraded to the required level.

The primary uses of uranium are as fuel for nuclear reactors and national defense. The drop in power demand coupled with uneasiness over plant reliability have combined to slow the construction of nuclear power plants, and greatly reduce the requirements for uranium. Defense requirements are difficult to determine, but new weapon construction plus upgrading of existing stock piles (nuclear warheads deteriorate through time) has increased, though not enough to increase demand significantly. Other uses for uranium are in X-ray tubes, ultraviolet lamps, glass colorants, ceramics, and steel.

Wyoming's first production of uranium occurred in 1953, when 5,156 tons of ore were mined. The largest production of 5,517,070 tons was attained in 1978. Wyoming ranks second to New Mexico in both uranium production and amount of reserves. The history of Wyoming uranium production is given in the accompanying table.

As of January 1986, Wyoming will have one active uranium surface mining operation and two in-situ projects. Given the availability of cheap high grade ore from abroad coupled with the difficulties of the domestic nuclear power industry, it seems unlikely that the uranium mining and milling industry will ever again play a significant role in Wyoming's mineral economy.

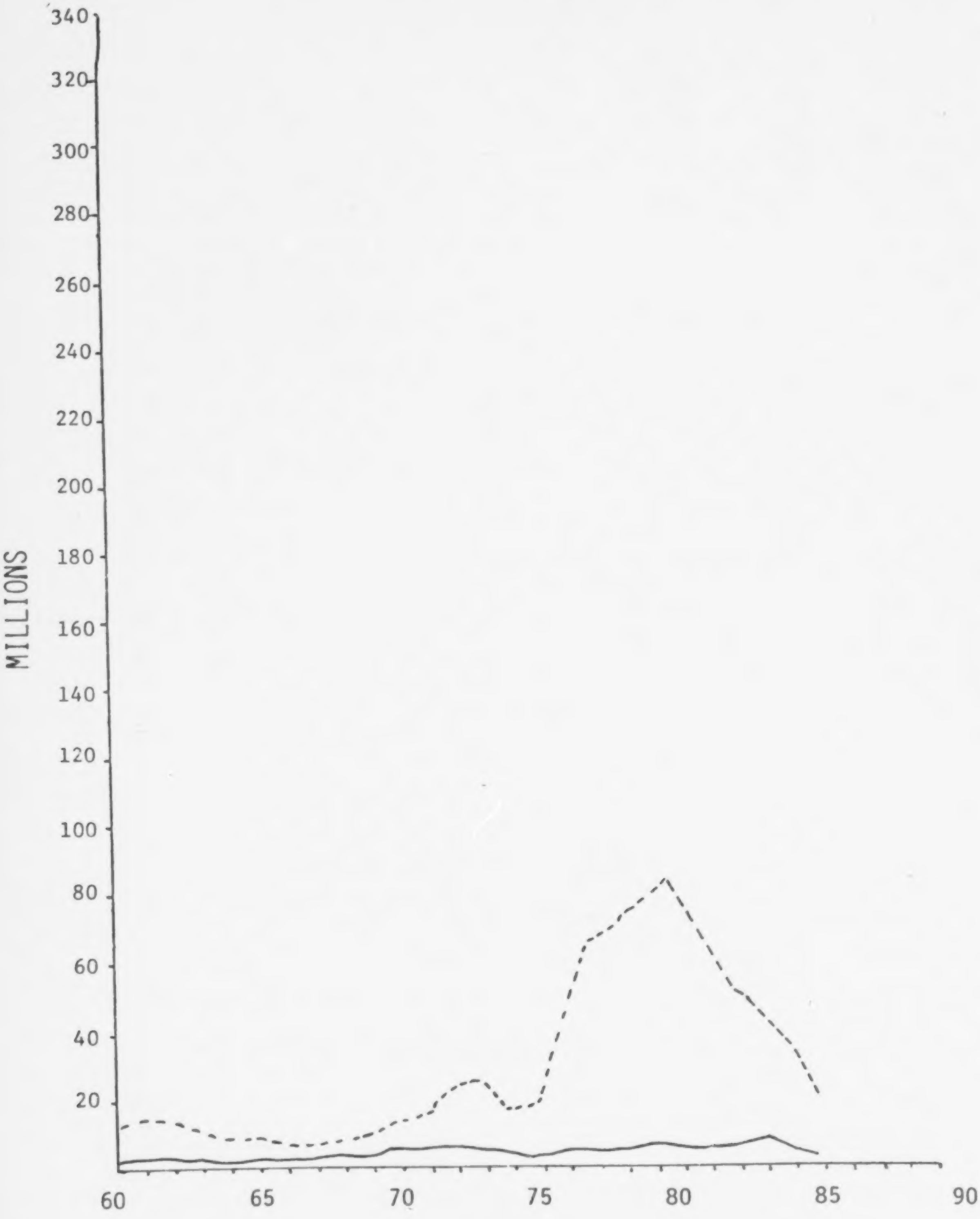
The reserves are here, but market and competition factors make the future appear bleak, to say the least.

HISTORICAL URANIUM PRODUCTION

Year	Net Tons
1953	5,156
1954	10,443
1955	45,782
1956	116,463
1957	264,133
1958	559,053
1959	810,514
1960	1,307,919
1961	1,542,192
1962	1,394,704
1963	1,289,595
1964	1,126,827
1965	1,222,821
1966	916,415
1967	1,242,187
1968	1,977,258
1969	1,631,518
1970	2,042,074
1971	2,044,943
1972	2,390,100
1973	2,588,011
1974	2,287,697
1975	2,736,663
1976	3,302,422
1977	3,986,025
1978	5,517,070
1979	5,512,345
1980	5,352,337
1981	4,560,683
1982	3,895,510
1983	3,022,650
1984	1,634,262
Cumulative Total	66,336,406

Source: Wyoming Department of Revenue and Taxation

URANIUM PRODUCTION AND VALUATION
1960 - 1990



TONS———————ASSESSED VALUATION------$

MISCELLANEOUS MINERALS

COPPER

Copper was the first metal utilized by man over 6,000 years ago. Native uncombined copper was utilized for tools, weapons, and jewelry due to the ease with which it could be shaped.

Currently, over half of the copper produced is used in the electrical industry for wire, equipment, and components. Next to silver, copper has the highest electrical conductivity of any metal. Other uses of copper are in plumbing, instruments, household utensils, decorative items, and coinage.

Copper occurs as the native metal or combined in sulphides, oxides, and carbonates. These secondary compounds are the result of weathering and concentration of copper from its original source in low silica igneous rocks.

Copper mineralization occurs sporadically throughout every mountain range in Wyoming. Copper mineralization is most common in Precambrian rocks, but is found in younger rocks in places such as the northern Laramie mountains and the Hartville uplift.

In the interval between 1899 and 1908, over 23.5 million pounds of copper were produced in Wyoming, mostly from the Encampment district, west of Laramie, and in this period Wyoming was one of the leading copper producing states in the nation. Copper production increased during World War I, mostly from the Hartville area, north of Wheatland. Since that time, Wyoming copper production has been insignificant. Recent speculation concerning reopening of the famous Ferris-Haggerty Mine in Carbon County, along with AMAX Minerals' interest in opening a copper mine in the Kirwin district in the Absaroka Mountains in Park County, are very unlikely to come to pass as long as world copper prices remain at their current low levels.

DIAMONDS

Diamond is composed of carbon, arranged in a crystal structure which makes it the hardest natural substance known. Diamonds were first prized as gemstones centuries ago in India and Borneo. It was not until much later that the applications of diamond as an abrasive in grinding wheels and drill bits, and as wire drawing dies, were realized.

Diamonds are produced in South Africa, the U.S.S.R., Brazil, and the East Indies. No natural diamonds are produced in the United States, although the General Electric Company has produced synthetic diamonds of industrial grade since 1955.

The primary source of diamonds is the mineral Kimberlite, a greenish gray crystalline rock which is the solidified lava conduit of an ancient volcano. Diamonds are produced naturally in the high pressures and temperatures found in pockets of molten rock deep beneath the surface. Exposure of these Kimberlite pipes results in weathering of diamonds from the rock and their concentration in stream gravels. About 50% of the diamonds recovered are taken by placer mining of old stream channels.

Kimberlite pipes occur along the eastern Wyoming-Colorado border. A number of small (less than 2 mm) diamonds have been extracted from these rocks. Cominco American conducted preliminary evaluation work on the deposits in Wyoming but these efforts have been abandoned.

GOLD

Gold has been treasured since ancient times due to its beauty, permanence, and the ease with which it can be worked. In the latter half of the 20th century, it has become a valuable industrial material, with applications in computers, shielding, high performance welding and other uses. Gold's most widespread use remains as a monetary standard. Nearly half of the gold that has ever been mined is in government vaults.

Gold is one of the "noble" metals. It does not combine chemically with other elements. Gold is found in a wide variety of geologic environments associated with various rocks and minerals. Due to its weight and lack of impurities, it is concentrated by stream action into placer deposits where it is recovered by dredging and washing sediments.

Gold has been found in all of the mountain ranges of Wyoming. Past significant mining operations were located in the Wind River Mountains, the Medicine Bow Mountains, and the Sierra Madre Mountains. No mines in these districts were exploited below 400 feet, and many were abandoned while still in the ore body.

Approximately 325,000 ounces of gold have been produced from Wyoming. No operations are currently active, although current gold prices have stimulated renewed interest and exploration.

GYPSUM

Gypsum has been used since ancient times for carving and decoration. The Greeks used it to manufacture plaster, which remains the principle use for the mineral. In the late 1800's a method to retard the setting of gypsum plaster was developed, and this revolutionized the industry by permitting the use of plaster in construction. The development of prefabricated wallboard revolutionized the industry again in the 1960's. Approximately two-thirds of the gypsum currently marketed is in the form of prefabricated products.

Gypsum is precipitated primarily from sea water, but may be deposited in saline lakes or hot springs. It often occurs as a product of volcanic activity and may occur in metallic mineral veins.

Gypsum, in Wyoming, primarily occurs in layers in Permian, Triassic, and Jurassic red beds at various localities within the state. Some gypsum has been mined in Wyoming since the 1890's, but current production comes from mines in Albany, Big Horn, and Park Counties. Virtually all of Wyoming's gypsum output is utilized in the manufacture of wallboard for the construction industry and the manufacturing of cement.

JADE

Jade has been a prized gemstone in China and the Far East for a long time. It is valued for its toughness, ability to take a high polish, and the ease with which is is carved.

The term jade is applied to two different minerals which have roughly similar properties. The mineral jadeite is a sodium-aluminum silicate. It is hard and tough, and varies from white to greenish-white to emerald green. It has been found in Burma, Southern China, Tibet, Mexico, and South America. No jadeite has been found in Wyoming. The second variety of jade is the mineral nephrite, a calcium-magnesium-aluminum silicate. It is not quite so hard or tough as jadeite. Its color varies from olive-green through dark green to black. Light "apple-green" jade is the most valued. It has been found in China, Turkestan, Siberia, New Zealand, and Alaska, as well as Wyoming.

Jadeite occurs in metamorphic rocks in veins and masses. Nephrite occurs as veins in metamorphic rocks. Wyoming jade occurs as veins in Precambrian metamorphic rocks in the southern Wind River Mountains. Boulders and pebbles of jade occur around the southern end of the Wind River Mountains and on the north end of the Laramie Mountains to the east. Although the jade industry of Wyoming is small, it is well known throughout the world and provides some income and/or a hobby for many people.

ZEOLITES

Zeolites are sodium and/or calcium-aluminum silicate minerals that occur in bedded clay deposits or in vesicles in volcanic rocks. Their current use is in water softening due to their ability to exchange ions with solutions they contact. It is projected that they will be used on a large scale for extraction of radioactive products from nuclear reactor wastes.

The Beaver Rim area of Fremont County contains layered zeolites bedded with clays exposed over a considerable area; however, there is no commercial production at this time.

CONSTRUCTION MATERIALS

The major construction materials mined in Wyoming are crushed rock for cement, sand and gravel, and limestone. The cement industry is the largest non-fuel minerals industry in the nation. Cement is vital to the construction and road-building industries and is literally the backbone of modern civilization. Wyoming does have one cement plant in Albany County.

Sand and gravel is the only mineral commodity which is produced in all 50 states, and coincidentally is the only one produced in all of Wyoming's 23 counties. Its primary uses are as aggregate for concrete and bituminous mixes, for road bases and coverings and as fill. Pure sand is used in glass manufacture, foundry molding, and metallurgical applications.

Limestone is utilized as a building and decorative stone, road metal, aggregate, and in sugar beet factories where pure limestone is used as a source of lime and carbon dioxide in the refining process.

COUNTY MINERAL PRODUCTION AND VALUATION
1985

ALBANY COUNTY

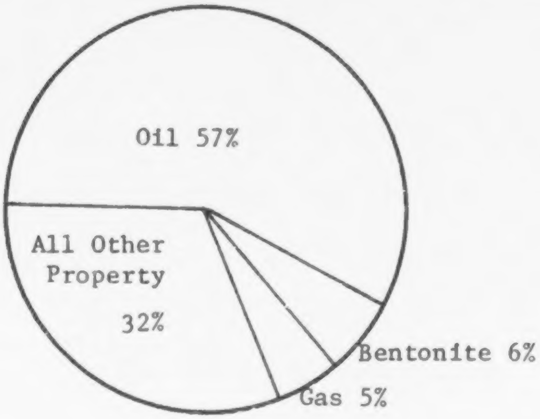
Almost 80% of Albany County's mineral valuation in 1985 was on crude oil, with gypsum, cement rock, and construction materials making up the remainder.

Oil production was up slightly in 1984, but valuation per barrel dropped nearly $4.00. Gypsum production showed a slight decline. The various factors combined to make total 1985 mineral valuation in the county almost equal to 1984.

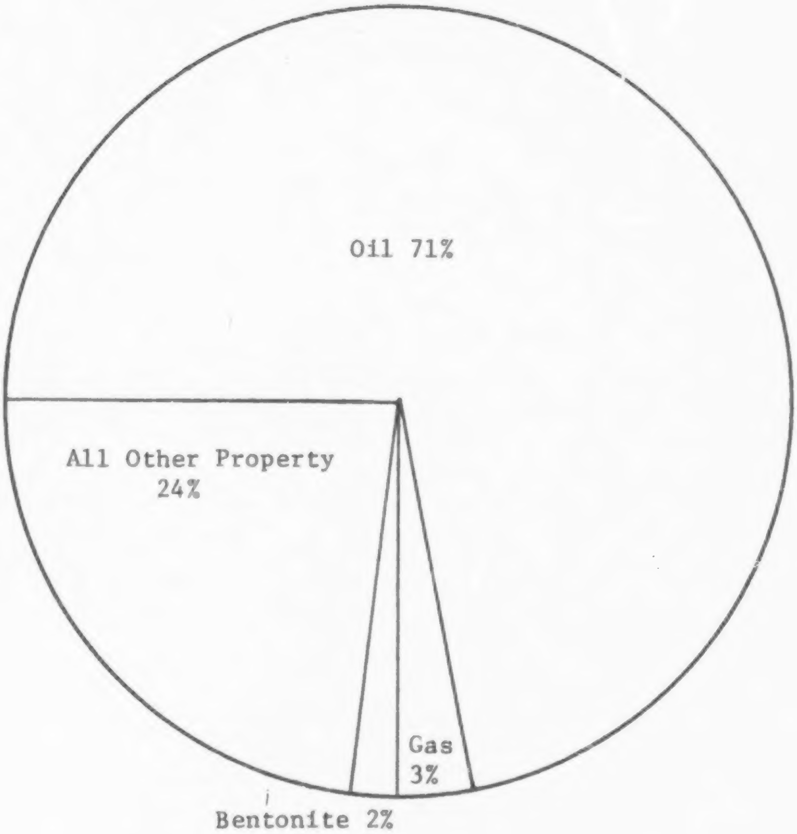
BIG HORN COUNTY

Big Horn County's prime mineral product is crude oil. In 1984, oil valuation accounted for 92% of the county's mineral worth. Production increased by nearly 400,000 barrels, but a $2.70 per barrel decline in unit value resulted in a valuation increase of 7 million dollars, significantly less than the production rise would suggest. Natural gas production decreased in 1984, but bentonite more than doubled to over 940,000 tons. As expected, gypsum production remained stable. Minor amounts of clay, sand, and gravel were again produced.

Big Horn County Valuation 1980 and 1985



1980 Total Valuation $99,025,810



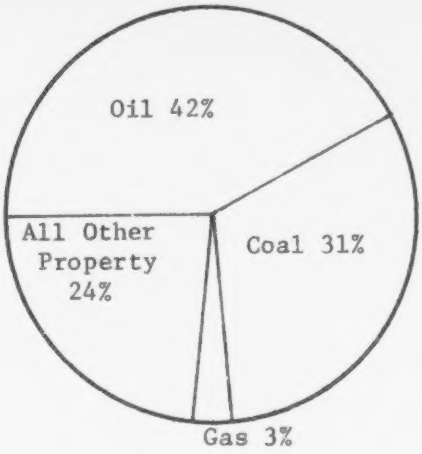
1985 Total Valuation $180,114,751

CAMPBELL COUNTY

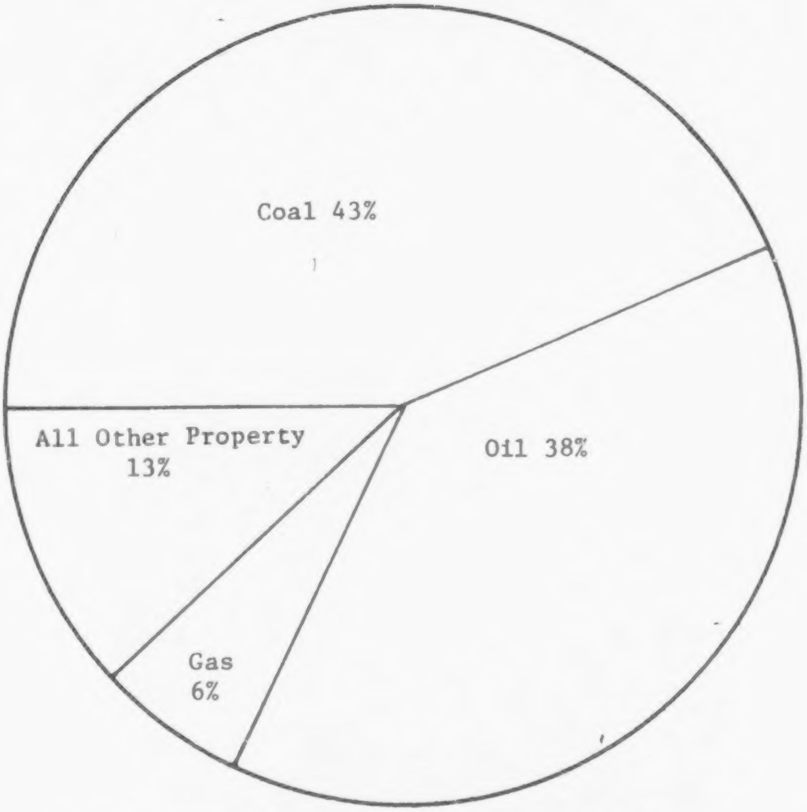
Campbell County leads Wyoming in oil and coal production, and is a respectable 5th in natural gas production. Despite a drop of 9 cents in oil valuation per barrel and a 93 cent per ton dip in coal valuation, Campbell County leads all counties in the state with a total mineral valuation of $1,505,033,363. To place that number in perspective, this figure is greater than the total valuation of the entire State in 1972.

The county produced almost 24 million barrels of oil in 1984, along with over 102 million tons of coal, 80% of Wyoming's production. Natural gas production rose by nearly 8.5 million MCF over 1983, and should show an upward trend at least in the near term.

Campbell County Valuation 1980 and 1985



1980 Total Valuation $699,729,163



1985 Total Valuation $1,738,582,032

CARBON COUNTY

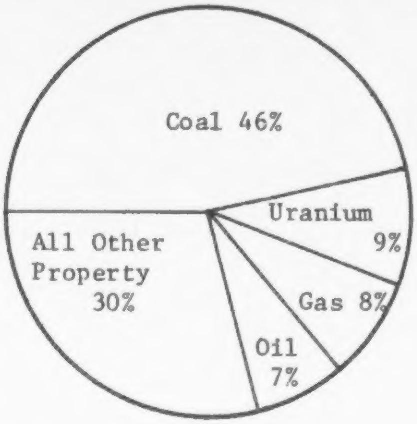
Natural gas was the most valuable county mineral commodity in 1984, with a total worth of over 46 million dollars.

Carbon county produced 5 million tons of coal in 1984, a slight increase over 1983. The high mining costs in Carbon County will fuel an overall downward trend in the County however, and production may cease altogether toward the end of this decade.

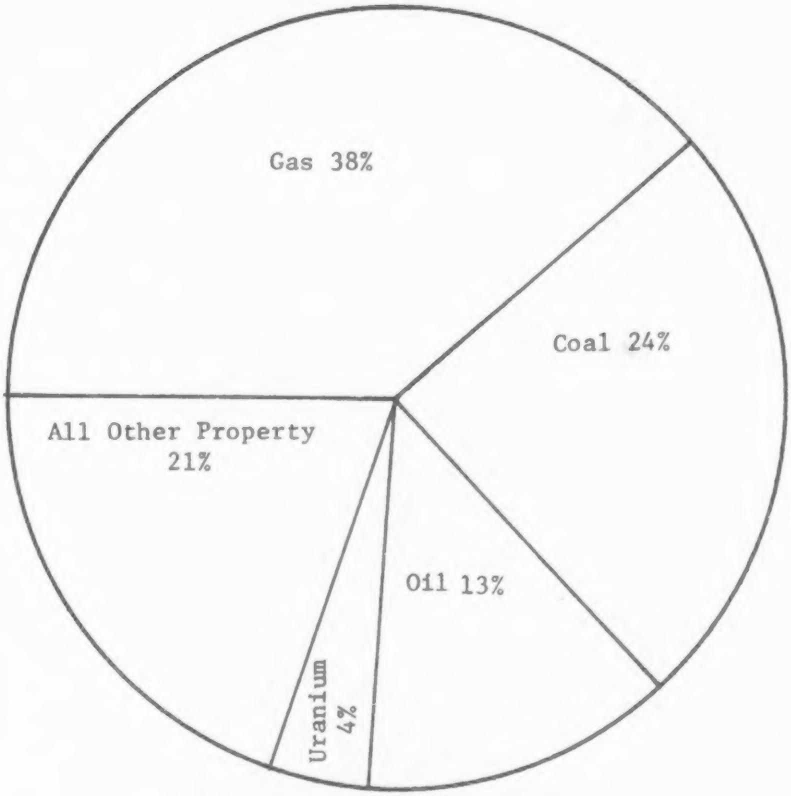
The last active uranium operation in the county ceased operations in March, with no prospects of any new activity in sight.

Oil production was up slightly form 2.3 to 2.5 million barrels.

Carbon County Valuation 1980 and 1985



1980 Total Valuation $339,374,547



1985 Total Valuation $533,632,439

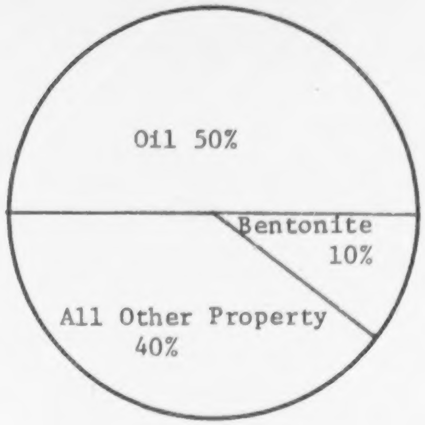
CROOK COUNTY

Oil production in Crook County increased by nearly 1 million barrels in 1984, and although unit valuation dropped by $2.30 per barrel, total oil valuation increased by over 25 million dollars. Oil accounts for 94% of the county's mineral valuation.

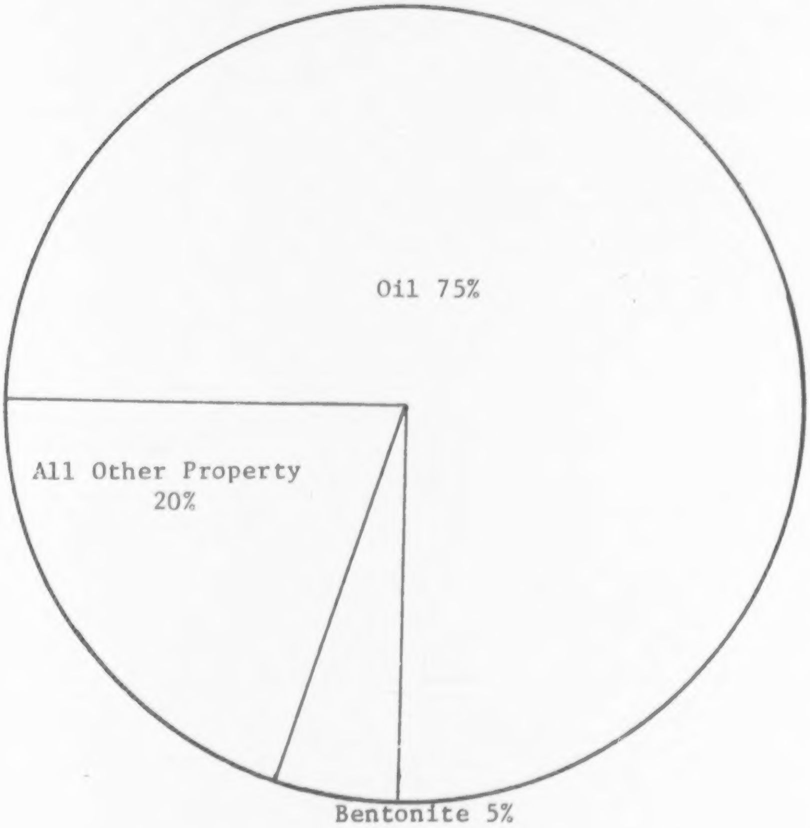
Natural gas production decreased in 1984 but the county's production is so small that minor flucuations result in large changes in output.

Bentonite production increased by over 300,000 tons in 1984, reflecting the large statewide increase.

Crook County Valuation 1980 and 1985



1980 Total Valuation $61,617,082



1985 Total Valuation $141,781,221

CONVERSE COUNTY

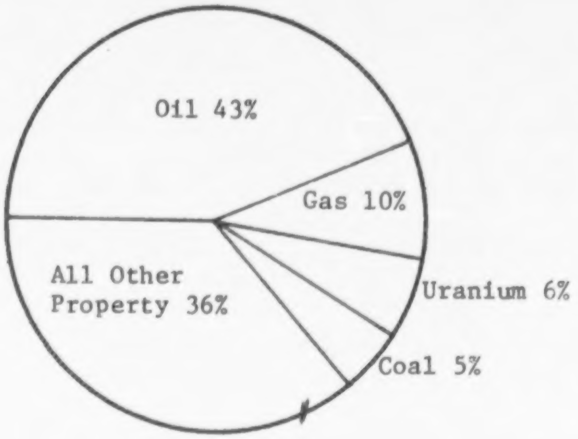
Oil production grew significantly in Converse County in 1984, moving from 5.7 to 8.1 million barrels. Even with a valuation decrease of $2.11 per barrel, total valuation was up nearly 70 million dollars.

Natural gas production rose by 800,000 MCF over 1983, and valuation jumped by 58 cents per MCF.

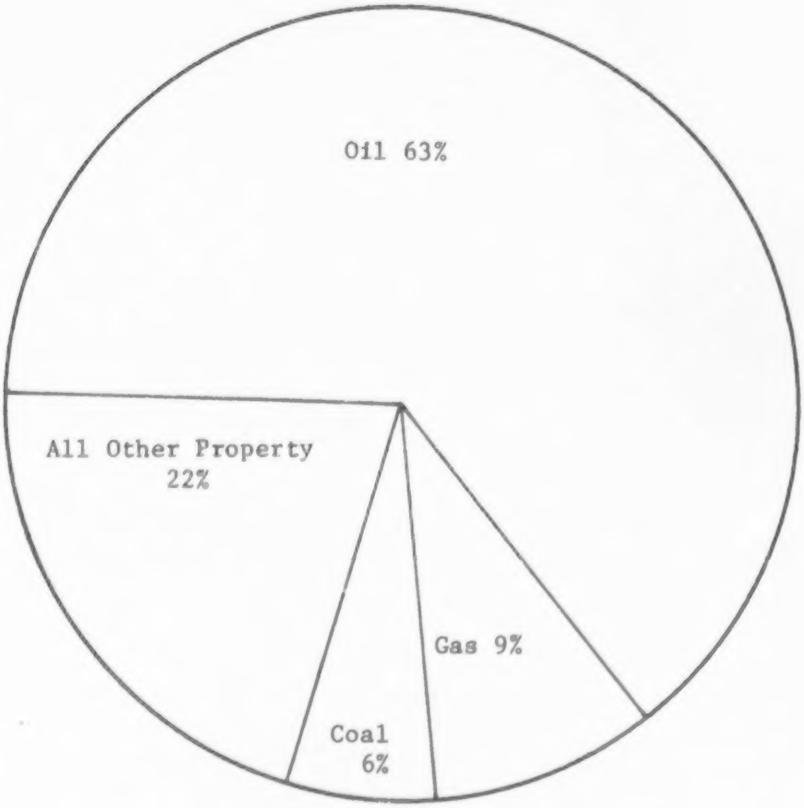
Coal production at the county's only mining operation increased nearly 500,000 tons in 1984.

At present it seems likely that no uranium mining will continue in Converse County past the first of January 1986, when Bear Creek Mining Company's only contract expires.

Converse County Valuation 1980 and 1985



1980 Total Valuation $264,273,535



1985 Total Valuation $374,634,727

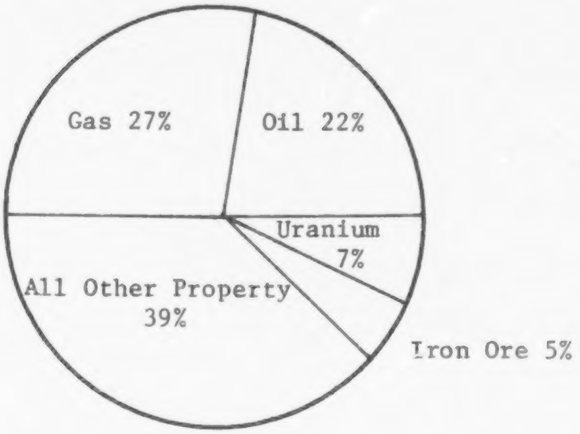
FREMONT COUNTY

Oil production dropped in Fremont County by slightly less than 400,000 barrels in 1984, although it remains the county's most important commodity with a value of over 135 million dollars.

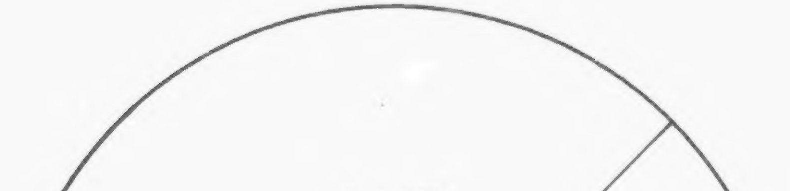
Gas production fell from 39 to 44 million MCF as well, although unit valuation rose slightly.

Uranium production dropped by over 100,000 tons in 1984, and will decline further, although it appears likely that Fremont will be the only Wyoming county with any uranium ore production at all by 1986.

Fremont County Valuation 1980 and 1985



1980 Total Valuation $287,148,679



1985 Total Valuation $405,672,320

GOSHEN COUNTY

Goshen County mineral production consists of a small amount of oil and construction materials.

Its 1985 mineral valuation of 688,000 dollars was one of only three Wyoming counties with mineral production of less than 4 million dollars.

The county's oil is from low production stripper wells and has one of the higher unit valuations in the State, $29.17 per barrel for 1985.

Production has held at around 15,000 barrels for the past several years and should not flucuate much.

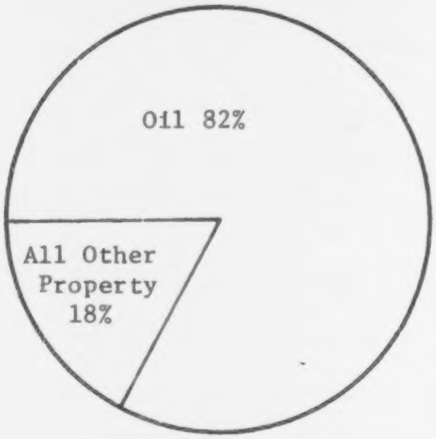
HOT SPRINGS COUNTY

Oil accounts for 99% of Hot Springs County's mineral valuation. In 1984 production rose slightly by 200,000 barrels, but a nearly $3.00 per barrel drop in price resulted in a drop of over a million dollars valuation loss.

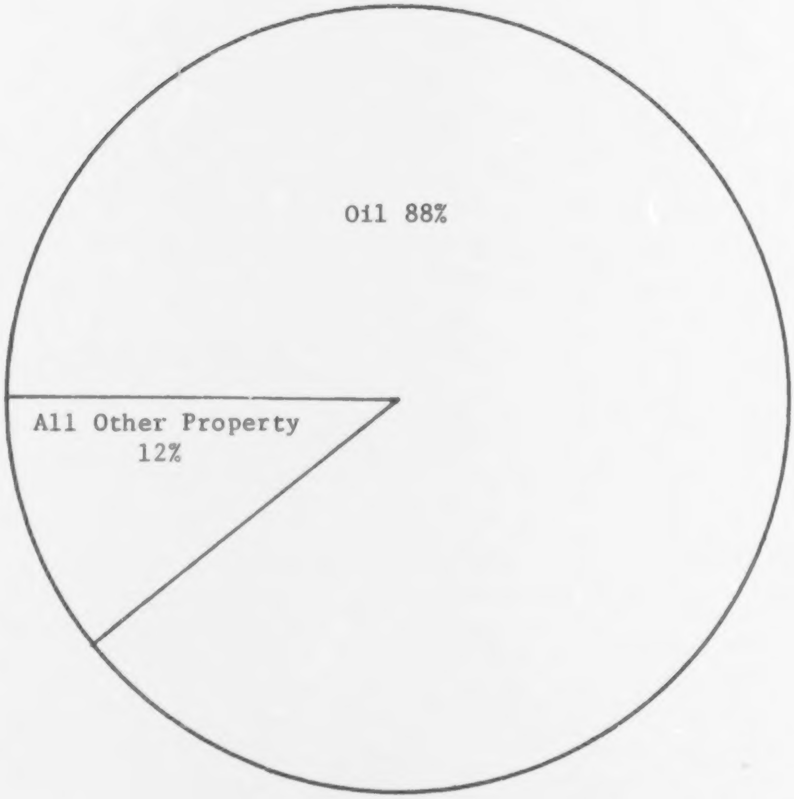
Coal production at the Grass Creek Mine held close to steady at 42,578 tons. The company has filed applications to increase capacity to 700,000 tons over the next several years.

Natural gas production in the county remained close to 250,000 MCF and should not show any major flucuations in the near future.

Hot Springs County Valuation 1980 and 1985



1980 Total Valuation $109,060,433



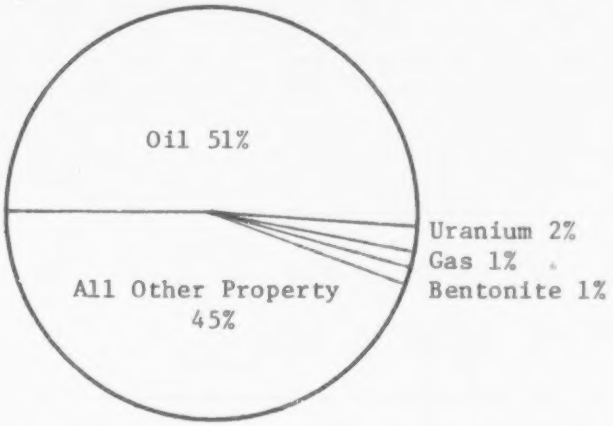
1985 Total Valuation $220,769,209

JOHNSON COUNTY

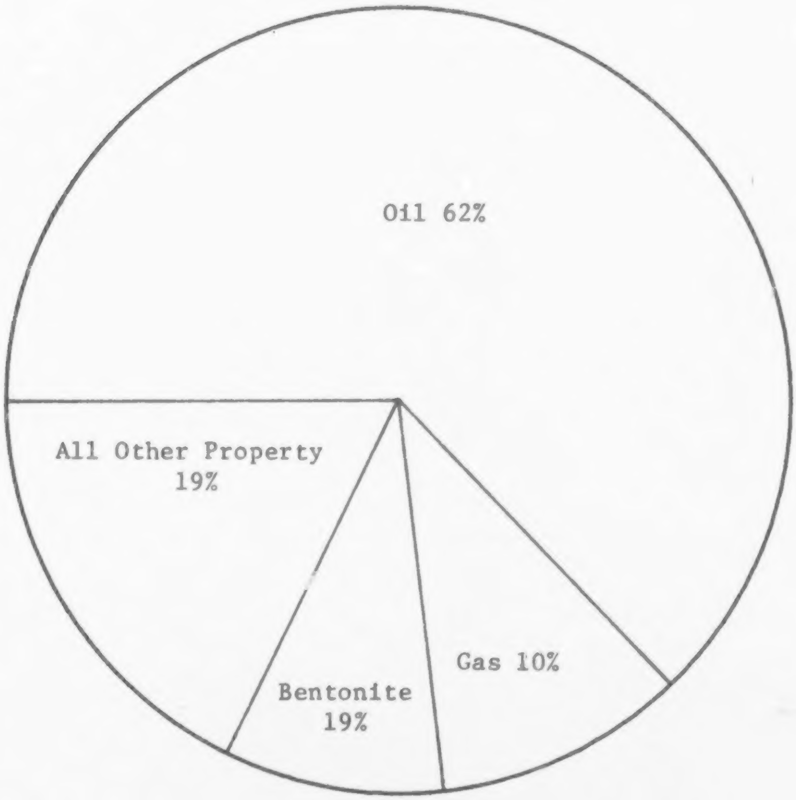
A total of 2,756,696 million barrels of oil accounted for 96% of Johnson County's mineral valuation in 1984. This was an increase of over 153,000 barrels from 1983. Valuation did not increase proportionately, however, due to a $3.17 drop in unit valuation.

Other significant mineral products of the county were 649,711 MCF of gas and 290,848 tons of bentonite. The former figure is a small drop and the latter a small increase over 1983 figures.

Johnson County Valuation 1980 and 1985



1980 Total Valuation $78,218,341



1985 Total Valuation $122,404,049

LARAMIE COUNTY

In 1984 oil production accounted for 78% of Laramie County's mineral valuation, with construction materials accounting for all the rest except for a small amount of natural gas.

Oil production in the county rose by over 183,000 barrels, a percentage increase of 49%. This rate of increase will slow and begin a decline by the latter 1980's.

The county total of 4,406,924 dollars for construction material valuation reflects MX related development in the county.

LINCOLN COUNTY

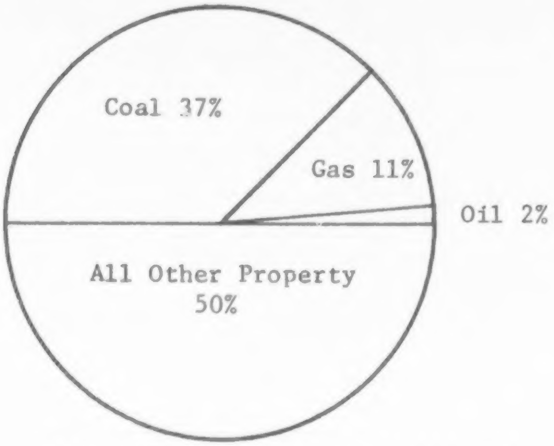
Natural gas accounted for 50% of Lincoln County's 222.6 million dollar mineral valuation in 1985. The county's location on the eastern edge of the Overthrust Belt accounts for its large and rising gas production.

Lincoln County has been a coal producer for 110 years. In 1984, 4,070,071 tons were mined, almost exactly the same as 1983. Additional production from the FMC Skull Point Mine and possibly a Rocky Mountain Energy operation should raise this total in future years.

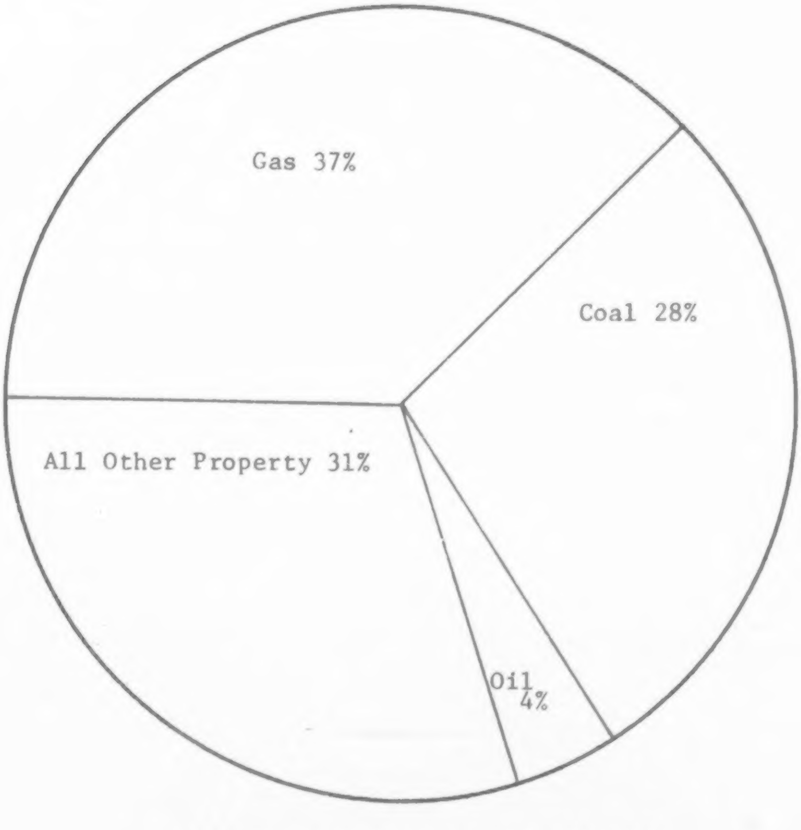
County oil production rose to 552,456 barrels in 1984. This increase of over 165,000 barrels was due to liquids stripped from natural gas in processing plants.

The Exxon LaBarge Project when it begins production will spark a dramatic rise in Lincoln County gas output.

Lincoln County Valuation 1980 and 1985



1980 Total Valuation $156,302,736



1985 Total Valuation $297,085,987

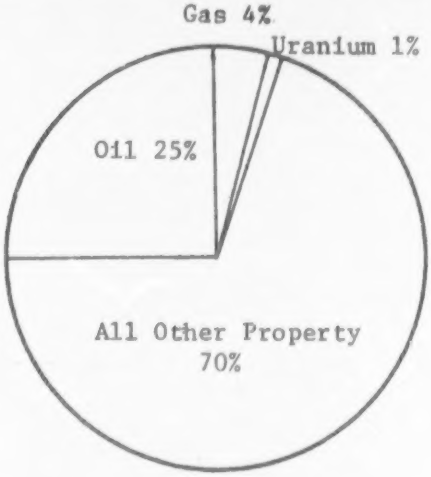
NATRONA COUNTY

Oil production in Natrona County decreased by slightly over 200,000 barrels in 1984. A drop in unit valuation of $3.10 resulted in a loss of over 11 million dollars. This downward trend is likely to continue, considering the number of older fields in the county.

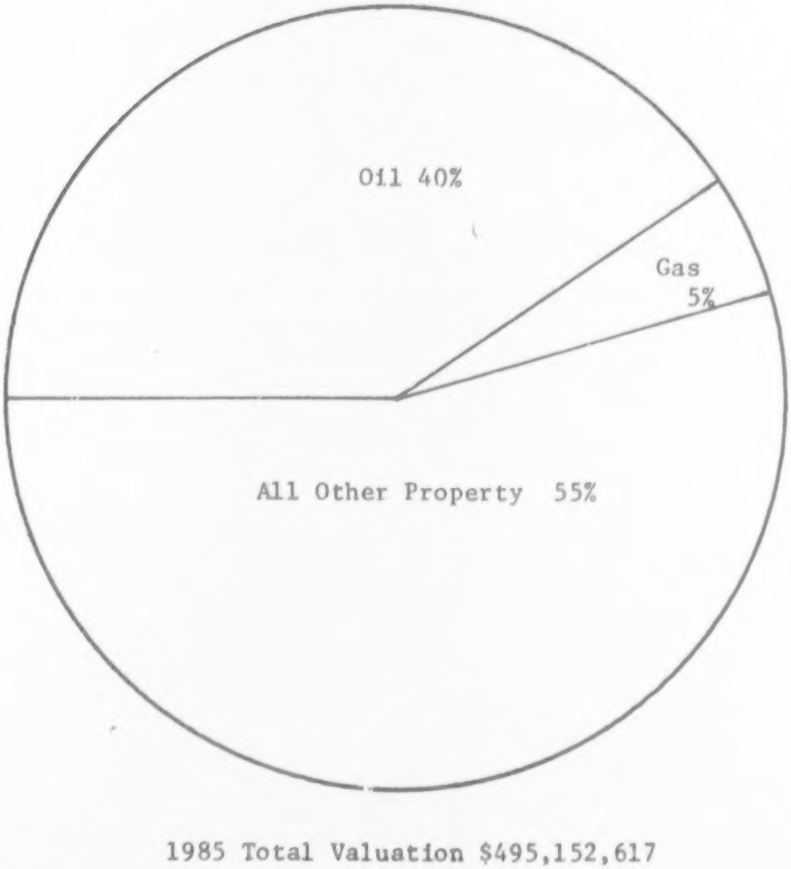
Bentonite production dropped by nearly 50% to 30,033 tons. This trend was contrary to an overall state increase.

Other county mineral products are sodium sulfate and construction materials.

Natrona County Valuation 1980 and 1985



1980 Total Valuation $281,141,476



1985 Total Valuation $495,152,617

NIOBRARA COUNTY

Niobrara County's most important mineral commodity is crude oil. In 1984 crude oil accounted for 96% of the county's mineral valuation and 57% of its total valuation. Production fell slightly from 1,165,753 to 1,041,252 barrels. Valuation dropped by some five million dollars.

Natural gas production in the county decreased by 203,000 thousand barrels, a percentage drop of 58%. Large relative flucuations involving such small numbers are not reliable indicators of state production trends.

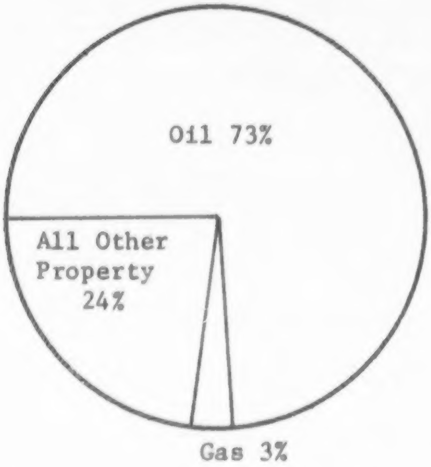
PARK COUNTY

Park County fell to second place behind Campbell County in 1984 with an output of almost exactly 20,000,000 barrels. This was a decline of over 1.3 million barrels compared to 1983. Production will continue to decline as old giant fields like Oregon Basin continue to be depleted. Despite the drop, oil production accounted for 96% of the county's mineral valuation and 81% of total valuation. Unit valuation fell by $2.83 per barrel.

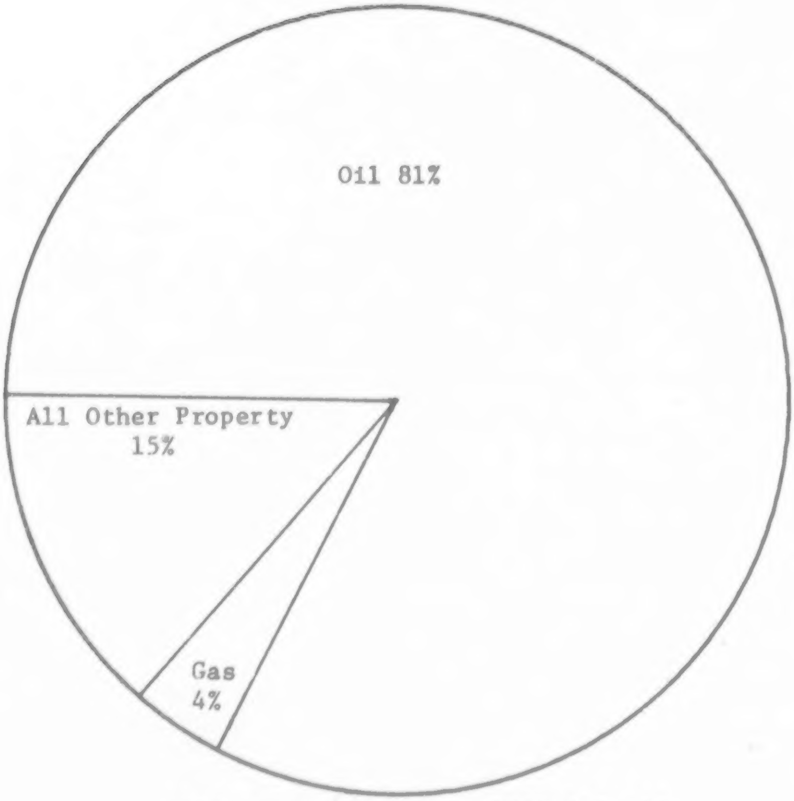
Increased drilling resulted in a jump of over 1,950,000 MCF in gas production. Such increases are not likely to be sustained.

Gypsum production dropped by about 10,000 tons over 1983.

Park County Valuation 1980 and 1985



1985 Total Valuation $290,678,643



1985 Total Valuation $589,628,240

PLATTE COUNTY

Platte County produced 199 barrels of oil valued at 5,929 dollars in 1984. This unit valuation, $29.79, was the highest of any county in the State.

The remainder of the county's mineral valuation, $584,569, comes from Guernsey Stone's dolomite quarry, Basin Engineering's marble quarry and various sand and gravel operations.

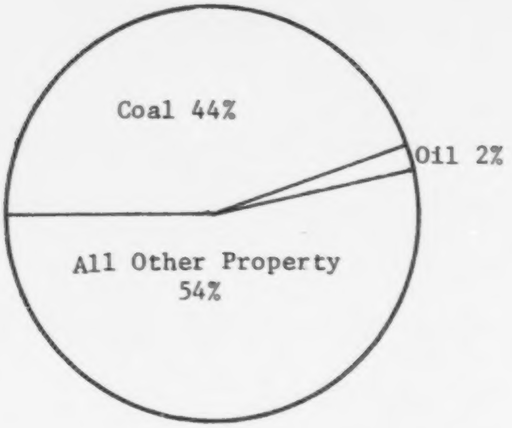
SHERIDAN COUNTY

Coal production in Sheridan County fell by 390,000 tons in 1984. This resulted in a drop of 4 million dollars in mineral valuation. The revenue drop off would have been much greater if unit valuation had not increased by $4.54 per ton. All but 715 tons of the county's production came from Peter Kiewit Sons' Big Horn Mine. The Big Horn Mine has announced that it will close when its contract with Commonwealth Edison expires at the end of 1988. If it takes place as reported, this closure will have a profound effect on Sheridan County. Ninty-one percent of the mineral valuation and 44% of the total valuation of the county come from this mine's production, to say nothing of property taxes, job losses, and so on.

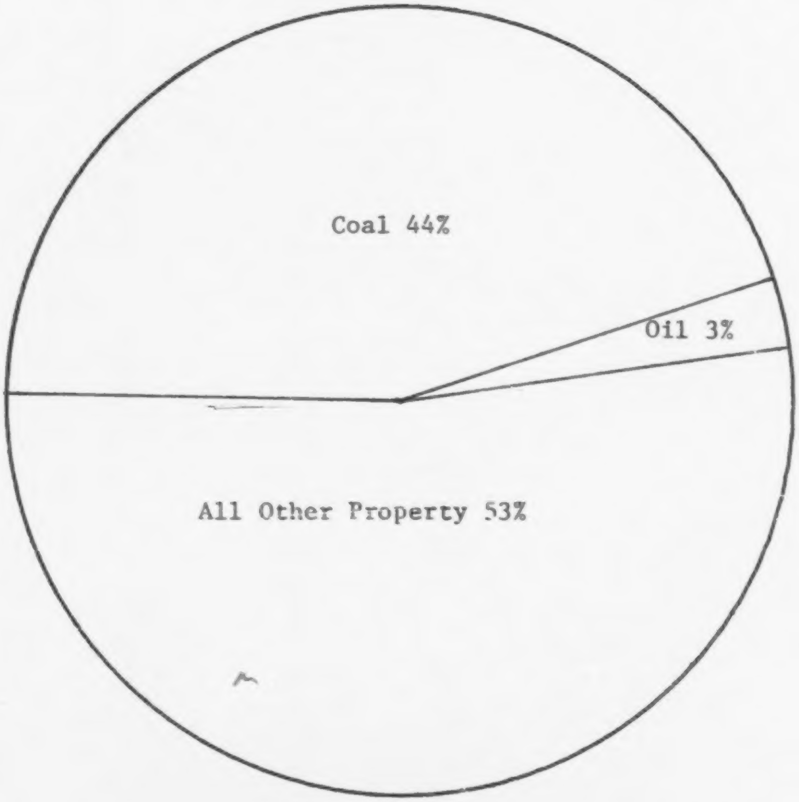
Sheridan County's oil production decreased slightly by 7,000 barrels in 1984, and this slow decline is likely to continue.

Construction materials, including scoria, accounted for 1,049,312 dollars of valuation.

Sheridan County Valuation 1980 and 1985



1980 Total Valuation $124,751,478



1985 Total Valuation $147,133,208

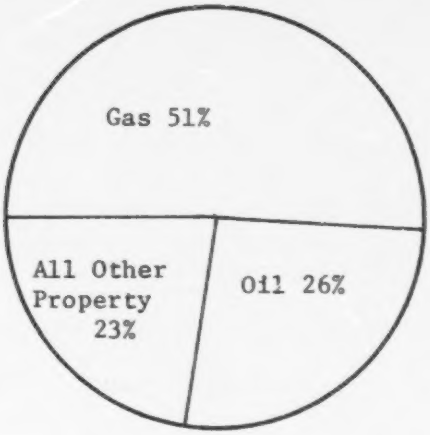
SUBLETTE COUNTY

Natural gas was Sublette County's most important mineral product in 1984, with over 39 million MCF produced with a valuation of over 83 million dollars. Both of those figures show significant gains over 1983.

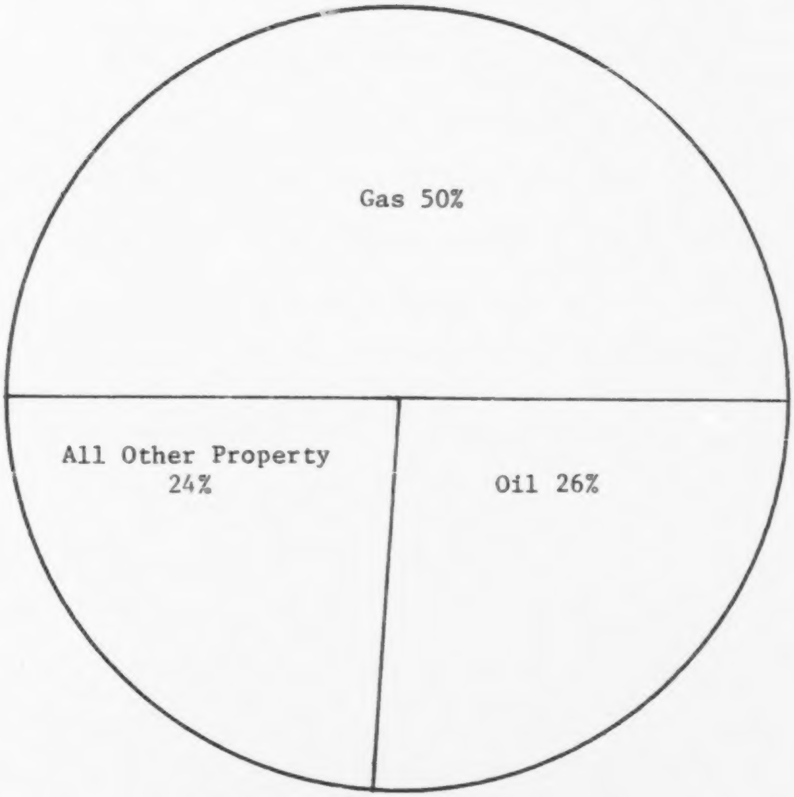
As the Riley Ridge Project comes on line Sublette County's gas production will show dramatic increases.

Oil production held nearly steady in 1984 with a slight decline of 18,000 barrels. Liquids stripped at the new processing plants, plus the possibility of new Overthrust discoveries, will reverse this downward trend.

Sublette County Valuation 1980 and 1985



1980 Total Valuation $96,426,911



1985 Total Valuation $166,557,950

SWEETWATER COUNTY

Sweetwater County has significant production of oil, gas, coal, and trona and these plus sand and gravel combine for a total valuation on production of over 811 million dollars, third largest in the State.

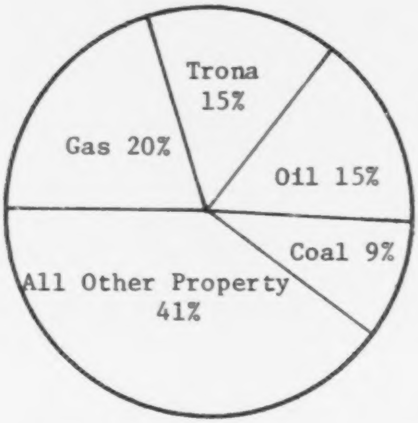
Natural gas is the most valuable product, accounting for one third of the mineral valuation and 23% of the total valuation. Production in 1984 was up nearly 8 million MCF. New field discoveries should at least maintain these production levels.

Crude oil is the second most valuable mineral commodity in the county, accounting for 31% of the mineral valuation and 22% of the total valuation.

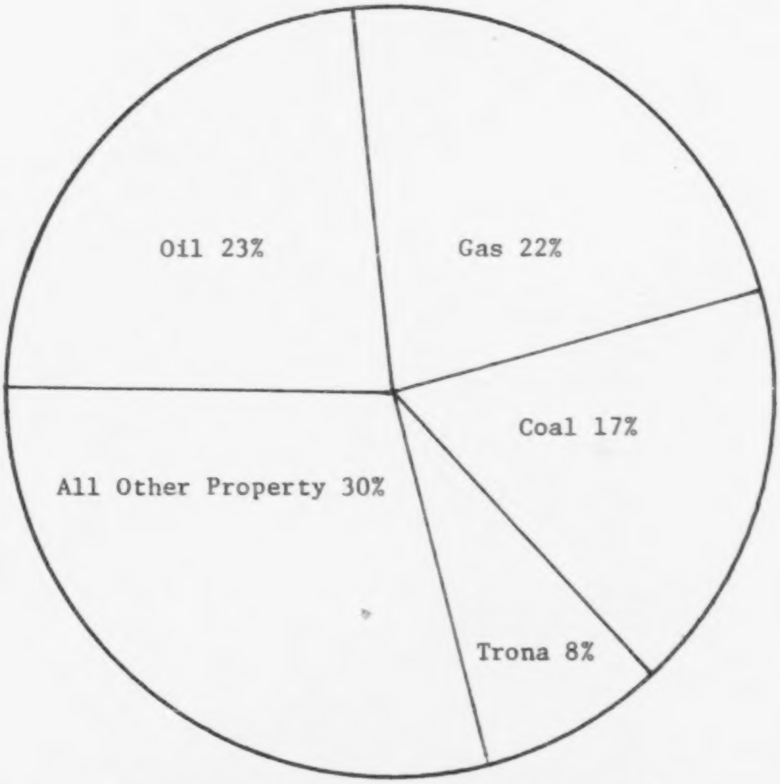
Sweetwater County is the second largest coal producer in the State, although it is far behind Campbell County. Production of 8,750,000 tons was responsible for 24% of the county mineral valuation in 1984.

Trona is produced only in Sweetwater County, and is fourth behind oil, gas, and coal in valuation at 95,792,777 dollars. Production was up by over 500,000 tons in 1984, but price drops lowered the total valuation to 95,700,000 dollars. The domestic trona market is saturated, and new applications or foreign markets must be exploited for this industry to expand.

Sweetwater County Valuation 1980 and 1985



1980 Total Valuation $776,389,258



1985 Total Valuation $1,147,428,344

TETON COUNTY

Teton County is the only county in Wyoming which had no oil or gas production in 1984. A number of exploration leases and permits have been let in the county, and several wells have been drilled in the past but whether any production will result from this activity remains to be seen.

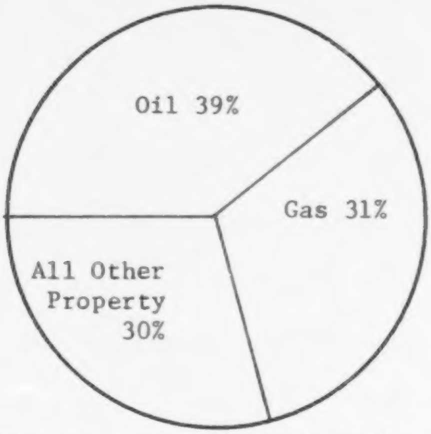
The only minerals produced in Teton County in 1984 were 82,987 dollars worth of sand and gravel.

UINTA COUNTY

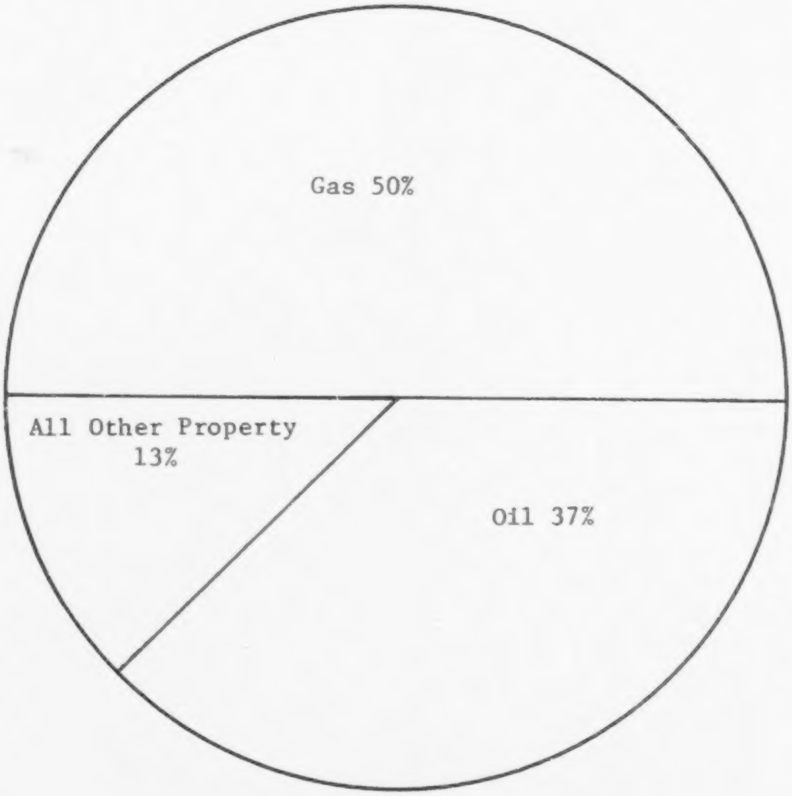
Uinta County has been the main benefactor of Overthrust Belt oil and gas activity. In 1970 the county produced 31,000 barrels of crude oil while in 1984 the total was 12,674,088 barrels, third in the State behind Campbell and Park Counties. The increase in natural gas production has been more dramatic from 3.4 million MCF to 132 million MCF, the largest total in the State. Uinta County valuation on oil and gas production was 87% of the total county valuation in 1984.

Construction materials valuation was 679,362 dollars in 1984, the large figure reflecting gas plant and other construction in the county.

Uinta County Valuation 1980 and 1985



1980 Total Valuation $132,256,789



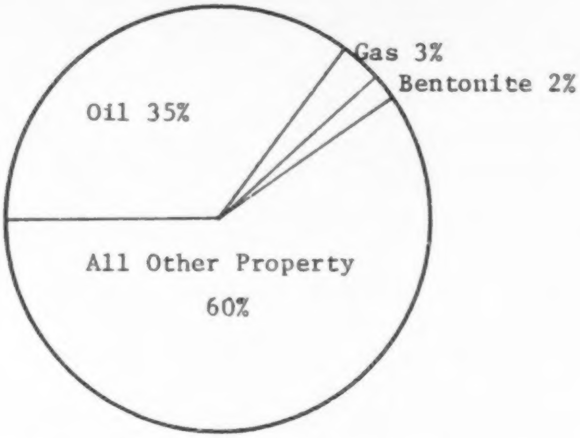
1985 Total Valuation $945,524,897

WASHAKIE COUNTY

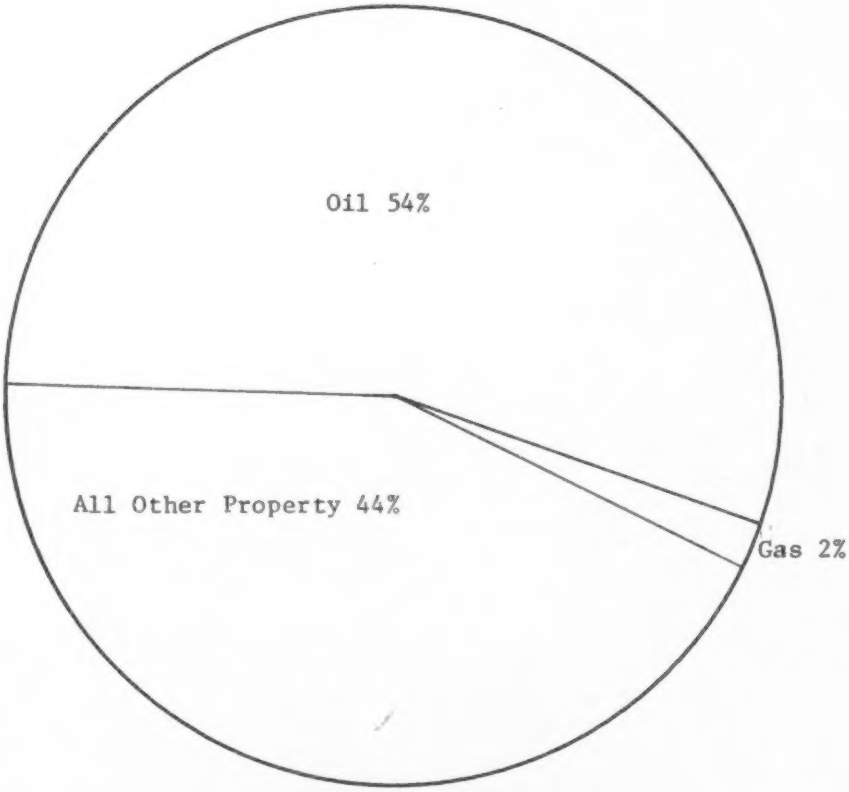
Both oil and gas production showed small increases in 1984, 71,000 barrels and 140,000 MCF respectively. These increases do not balance out the drops of the previous year, but are a positive trend that will hopefully be sustained.

County bentonite production was up 130,000 tons in 1984, paralleling the State trend. Considering the volatility of the bentonite market, predicting future tendencies is difficult.

Washakie County Valuation 1980 and 1985



1980 Total Valuation $53,501,271



1985 Total Valuation $92,311,650

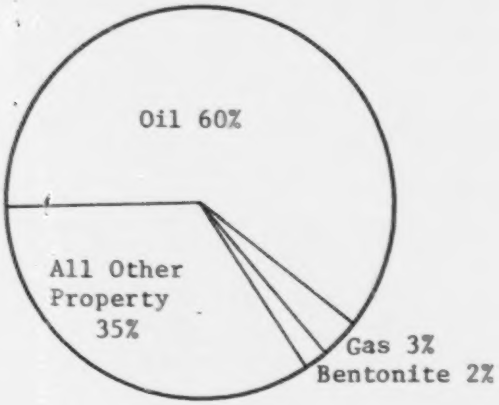
WESTON COUNTY

Oil production in the county dropped by 73,000 barrels in 1984, continuing a trend first appearing in the 1960's. Considering the age of Weston County's oil fields, no reversal of this downward slope is likely.

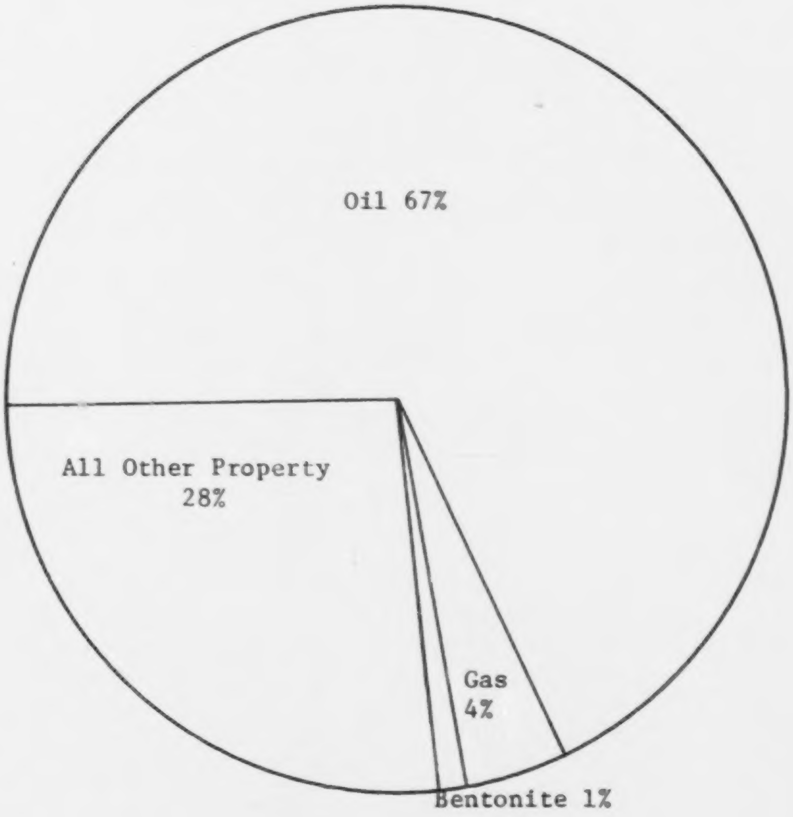
Natural gas production fell by over 111,000 MCF, but unit valuation rose again by .31 cents as old contracts expired and were replaced.

Bentonite production in the county decreased from 154 thousand to 128 thousand tons, despite the statewide rise. Availability and accessibility of deposits was the major contributor to this decline.

Weston County Valuation 1980 and 1985



1980 Total Valuation $74,926,326



1985 Total Valuation $121,060,038

WYOMING MINERAL PRODUCTION AND VALUATION
1980-1985

1980 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	154,632							15,948
Big Horn	5,736,181	2,766,860				1,270,100		163,498
Campbell	21,333,825	17,825,038	58,157,230	*				
Carbon	2,148,035	37,778,356	9,743,714	1,292,948				
Converse	7,095,507	13,995,581	3,152,635	1,694,299+*				
Crook	2,737,805	139,882				1,438,867		
Fremont	6,433,461	50,445,398		2,048,536	4,631,167			
Goshen	2,288							
Hot Springs	9,034,240	9,343	18,293			21,524		
Johnson	3,107,763	714,660		5,717+*		288,728		
Laramie	230,746							
Lincoln	228,846	19,934,979	4,989,771					
Natrona	6,976,032	6,434,241		310,837		18,178		
Niobrara	1,406,707	193,523						
Park	24,698,116	11,239,021				46,032		116,725
Platte					245,365			
Sheridan	205,232	16,403	4,327,594					
Sublette	1,802,016	43,866,231						
Sweetwater	9,983,493	115,350,442	10,138,301				12,159,241	
Teton								
Uinta	6,735,586	24,053,152						
Washakie	2,242,959	4,053,722				224,316		
Weston	1,840,074	701,684				276,968		
TOTAL	114,143,544	349,518,516	90,527,538	5,352,334+*	4,876,532	3,584,713	12,159,241	296,171

*In-situ

1981 Assessed Valuation
on
1980 Production

County	Oil	Gas	Coal	Uranium	Iron Ore	Bentonite	Trona	Misc.	Total
Albany	$ 3,473,013	$	$	$	$	$	$	$ 1,117,870	$ 4,590,883
Big Horn	94,417,253	5,692,228				4,331,059		500,291	106,568,397
Campbell	434,338,123	35,087,319	343,171,063	94,590				75,057	812,766,152
Carbon	49,695,901	91,337,606	154,386,154	31,288,920				104,247	326,812,828
Converse	200,299,800	33,158,188	14,186,858	18,928,024				133,985	266,707,705
Crook	59,277,459	37,877				5,500,012		277,606	65,092,954
Fremont	112,486,893	74,309,375		26,583,322	17,135,318			17,516,699	230,896,289
Goshen	88,536							129,748	218,284
Hot Springs	207,246,019	7,434	273,480			85,020		125,178	207,652,111
Johnson	68,163,722	1,587,850		618,379		761,574		140,620	71,272,145
Laramie	5,935,930							3,002,107	8,938,037
Lincoln	6,124,162	42,505,434	66,454,070					17,521	115,101,187
Natrona	110,995,042	12,476,893		3,466,867		52,695		721,081	127,712,578
Niobrara	40,938,920	48,580						9,730	40,997,230
Park	437,476,833	10,978,356				179,525		455,147	449,089,861
Platte					1,496,727			3,976,948	3,976,948
Sheridan	3,134,705	35,981	66,212,188					210,382	69,593,656
Sublette	37,673,281	58,521,792						8,363	96,203,487
Sweetwater	179,934,634	264,989,221	128,949,921				138,925,498	248,543	713,047,817
Teton								115,458	115,458
Uinta	149,875,372	36,280,911						524,729	186,681,012
Washakie	53,037,618	2,274,434				459,848		29,955	55,801,855
Weston	65,081,342	1,757,898				1,116,380		750	67,956,370
Total	$2,319,694,558	$671,087,378	$773,633,734	$80,981,002	$18,632,045	$12,480,113	$138,925,498	$27,735,779	$4,026,165,628
% of Total	58	17	19	2	.5	.5	3	5	

1981 Unit Valuation

County	Oil $/bbls	Gas $/MCF	Coal $/tons	Uranium $/tons	Iron Ore $/tons	Bentonite $/tons	Trona $/tons	Gypsum $/tons
Albany	$22.46	$	$	$	$	$	$	$ 1.75
Big Horn	16.46	2.06				3.41		2.90
Campbell	20.36	1.97	5.90	In situ				
Carbon	23.14	2.42	15.84	24.20				
Converse	28.23	2.37	4.50	In situ				
Crook	21.65	.27				3.82		
Fremont	17.46	1.47		12.98	3.70			
Goshen	38.70							
Hot Springs	22.94	.80	14.95			3.95		
Johnson	21.93	2.22		In situ		2.64		
Laramie	25.72							
Lincoln	26.76	2.13	13.32					
Natrona	15.91	1.94		11.15		2.90		
Niobrara	29.10	.25						
Park	17.71	.98				3.90		2.90
Platte					6.10			
Sheridan	15.27	2.19	15.30					
Sublette	20.91	1.33						
Sweetwater	18.02	2.30	12.72				11.43	
Teton								
Uinta	22.25	1.51						
Washakie	23.15	.56				2.05		
Weston	35.37	2.31				4.03		
State Average	$20.31	$1.92	$8.55	$16.79	$3.82	$3.48	$11.43	$2.84
Increase or Decrease Over 1980	+$9.20	+$.55	+$.23	+$4.22	+$.29	+$.09	+$2.18	+$.20

1981 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	155,375							15,384
Big Horn	5,313,639	3,238,237				1,557,955		149,696
Campbell	20,228,422	16,212,571	68,066,432	In situ				
Carbon	3,233,985	52,026,038	8,352,914	904,642				
Converse	6,588,690	12,189,486	3,219,001	1,298,808				
Crook	2,649,734	125,662				1,896,932		
Fremont	6,165,686	52,517,672		1,183,405	4,667,292			
Goshen	1,431							
Hot Springs	9,149,952	155,076	35,617			122,702		
Johnson	2,667,111	1,272,929		In situ		277,014		
Laramie	234,215							
Lincoln	236,584	24,960,246	4,997,142					
Natrona	6,897,806	5,998,034		201,971		75,059		
Niobrara	1,384,442	126,423						
Park	22,642,100	6,163,521				41,263		118,597
Platte								
Sheridan	169,494	32,639	2,736,409					
Sublette	1,751,963	38,166,533						
Sweetwater	9,270,498	110,756,980	11,003,007	971,855			11,787,731	
Teton								
Uinta	8,425,274	24,887,910						
Washakie	2,344,484	3,445,712				251,360		
Weston	2,401,715	800,383				582,720		
TOTAL	111,912,600	353,076,052	98,410,522	4,560,683	4,667,292	4,805,005	11,787,731	283,677

1982 Assessed Valuation
on
1981 Production

County	Oil	Gas	Coal	Uranium	Iron Ore	Bentonite	Trona	Misc.	Total
Albany	$ 5,354,264	$	$	$	$	$	$	$ 1,705,649	$ 7,059,913
Big Horn	159,220,581	8,668,272				6,184,587		462,838	174,970,396
Campbell	665,551,293	36,144,672	508,381,871	116,730				199,397	1,210,393,963
Carbon	111,712,053	186,661,292	158,519,134	43,170,592				58,284	500,121,355
Converse	234,060,727	31,633,649	18,670,206	13,255,920				104,862	297,725,364
Crook	84,631,167	39,045				8,780,809		261,275	93,216,462
Fremont	192,734,243	140,188,520		16,503,479	18,202,439			245,454	367,874,135
Goshen	51,497							373,136	424,633
Hot Springs	278,589,311	336,150	617,955			490,808		19,949	280,054,173
Johnson	89,813,437	2,782,158		91,074		837,400		225,378	93,759,447
Laramie	8,371,335							2,606,254	10,977,589
Lincoln	7,574,444	73,599,211	77,600,124					229,489	159,003,268
Natrona	234,571,192	19,109,848		3,528,292		304,835		753,431	258,267,598
Niobrara	48,310,067	72,109						46,450	48,428,626
Park	666,933,790	13,575,848				138,231		443,020	681,240,864
Platte								1,538,934	1,538,194
Sheridan	5,873,208	77,380	54,454,539					311,544	60,716,671
Sublette	60,807,536	64,566,069						10,871	125,384,476
Sweetwater	317,943,973	318,835,403	171,451,863	573,394			147,417,617	309,700	956,531,950
Teton								126,720	126,720
Uinta	277,534,024	77,787,956						574,131	355,896,111
Washakie	74,193,491	2,228,115				741,512		56,168	77,219,286
Weston	86,264,521	2,251,284				3,398,202		15,842	91,929,849
Total	3,610,096,154	978,556,981	989,695,692	77,239,481	18,202,439	20,876,884	147,417,617	10,678,776	5,852,764,024
% of Total	61	17	17	1	.35	.40	3	.25	

1982 Unit Valuation

County	Oil $/bbls	Gas $/MCF	Coal $/tons	Uranium $/tons	Iron Ore $/tons	Bentonite $/tons	Trona $/tons	Gypsum $/tons
Albany	$34.46	$	$	$	$	$	$	$1.75
Big Horn	29.96	2.68				3.97		2.90
Campbell	32.90	2.23	7.47	In situ				
Carbon	34.54	3.59	18.98	47.72				
Converse	35.52	2.60	5.80	10.21				
Crook	31.94	.31				4.63		
Fremont	31.26	2.67		13.95	3.90			
Goshen	35.99							
Hot Springs	30.45	2.17	17.35			4.00		
Johnson	33.67	2.19		In situ		3.02		
Laramie	35.74							
Lincoln	32.02	2.95	15.53					
Natrona	34.01	3.19		17.47		4.06		
Niobrara	34.89	.57						
Park	29.46	2.20				3.35		2.90
Platte								
Sheridan	34.65	2.37	19.90					
Sublette	34.71	1.69						
Sweetwater	34.30	2.88	15.58	.59			12.51	
Teton								
Uinta	32.94	3.13						
Washakie	31.65	.66				2.95		
Weston	35.92	2.81				5.83		
State Average	$32.26	$2.77	$10.06	$16.89	$3.90	$4.34	$12.51	$2.84
Increase or Decrease Over	+$11.95	+$.85	+$1.51	+$.10	+$.08	+$.86	+$1.08	---

1982 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	143,602							19,237
Big Horn	5,265,632	3,569,873				872,623		119,707
Campbell	20,221,550	17,188,170	77,927,442	611,684				
Carbon	2,846,347	47,175,586	5,052,927					
Converse	6,282,905	10,229,672	2,821,931	1,326,504*				
Crook	2,944,382	63,253				947,008		
Fremont	5,618,212	55,129,543		808,687	3,276,005			
Goshen	14,060							
Hot Springs	8,514,553	198,545	66,711			67,707		
Johnson	2,400,517	837,145				175,133		
Laramie	279,116							
Lincoln	240,021	21,937,007	4,314,363					
Natrona	6,806,895	8,303,298		167,335		55,730		
Niobrara	1,234,192	503,039						
Park	21,975,838	5,072,918				7,173		124,049
Platte								
Sheridan	231,030	22,004	3,002,677					
Sublette	1,593,581	39,564,219						
Sweetwater	8,737,658	104,279,682	10,828,045	981,39*			10,073,690	
Teton								
Uinta	7,934,059	32,929,608						
Washakie	2,057,877	2,594,322				80,474		
Weston	2,713,435	1,594,853				140,066		
Total	108,055,462	351,192,737	104,014,096	3,895,510	3,276,005	2,345,914	10,073,690	262,993

*Includes 1,795,348 tons of ore listed as clean-up (and not totaled) by Department of Revenue and Taxation
Ad Valorem Tax Division

1983 Assessed Valuation
on
1982 Production

County	Oil	Gas	Coal	Uranium	Iron Ore	Bentonite	Trona	Misc.	Total
Albany	$ 4,275,672	$	$	$	$	$	$	$ 860,260	$ 5,135,932
Big Horn	142,682,163	9,519,109				3,730,503		384,203	156,315,978
Campbell	615,772,477	38,907,822	634,464,846	5,269				246,654	1,289,397,068
Carbon	89,544,572	197,236,182	121,047,062	31,874,429				93,239	439,795,484
Converse	204,076,451	26,369,229	17,354,876	5,485,464				116,060	253,402,080
Crook	81,470,049	12,311				3,889,599		214,604	85,586,563
Fremont	160,126,236	208,304,791		7,033,560				137,971	387,068,576
Goshen	441,575							725,018	1,166,593
Hot Springs	233,566,723	420,205	950,632			267,443		15,002	235,220,005
Johnson	73,574,288	2,028,246				583,624		144,695	76,330,853
Laramie	9,042,490							1,534,884	10,577,374
Lincoln	7,211,334	78,682,018	76,821,811					100,545	162,815,708
Natrona	214,618,580	33,284,192		1,079,761		224,282		606,284	249,832,099
Niobrara	39,705,188	1,309,469						19,020	41,033,677
Park	586,049,250	15,987,010				31,920		454,155	602,522,335
Platte								1,153,363	1,153,363
Sheridan	7,279,846	57,290	62,742,657					253,082	70,332,875
Sublette	50,965,300	73,243,219						14,864	124,223,383
Sweetwater	274,723,792	337,876,912	200,263,256	78,511			121,583,686	229,532	934,755,689
Teton								144,509	144,509
Uinta	240,890,894	102,486,414						944,184	344,321,492
Washakie	58,373,862	1,809,826				197,161		26,542	60,407,391
Weston	87,997,720	4,517,197				688,634		60,952	93,264,503
Total	3,182,388,462	1,132,051,442	1,113,645,140	45,555,994	11,466,018	9,613,166	121,583,686	8,498,601	5,624,803,530
% of Total	57	20	20	1	—	--	2	—	

1983 Unit Valuation

County	Oil $/bbls	Gas $/MCF	Coal $/tons	Uranium $/tons	Iron Ore $/tons	Bentonite $/tons	Trona $/tons	Gypsum $/tons
Albany	$29.77	$	$	$	$	$	$	$1.75
Big Horn	27.10	2.67				4.28		2.90
Campbell	27.79	2.26	8.14					
Carbon	31.46	4.18	23.96	52.10				
Converse	32.48	2.58	6.15	9.88+clean-up*				
Crook	27.67	.19				4.11		
Fremont	28.50	3.78		8.55	3.50			
Goshen	31.41							
Hot Springs	27.43	2.12	14.25			3.95		
Johnson	30.65	2.42				3.33		
Laramie	32.40							
Lincoln	30.04	3.59	17.81					
Natrona	31.53	4.00		6.37		4.02		
Niobrara	32.17	2.60						
Park	26.67	3.15				4.45		2.90
Platte								
Sheridan	31.51	2.60	20.90					
Sublette	31.98	1.85						
Sweetwater	31.44	3.24	18.49	clean-up*			12.07	
Teton								
Uinta	30.36	3.11						
Washakie	28.37	.70				2.45		
Weston	32.43	2.83				4.92		
State Average	$29.45	$3.22	$10.71	$21.69	$3.50	$4.10	$12.07	$2.82
Increase or Decrease Over	-$2.81	+$.45	+$.55	+$4.80	-$.40	-$.24	-$.44	-$.02

*Unit valuations for clean-up operations are low and are not included.

1983 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	142,134							
Big Horn	4,885,623	2,206,205						15,954
Campbell	21,020,277	22,742,258	84,693,794			442,310		149,501
Carbon	2,276,002	33,073,794	4,698,511	477,281				
Converse	5,656,935	9,700,928	2,176,113	1,222,423				
Crook	3,181,240	72,495						
Fremont	5,630,804	44,009,029		780,021	2,478,371	1,206,893		
Goshen	15,271							
Hot Springs	7,931,758	245,571	45,107					
Johnson	2,603,755	678,616				58,079		
Laramie	376,072					257,666		
Lincoln	387,109	24,909,235	4,040,464					
Natrona	7,115,626	6,146,366		183,447				
Niobrara	1,165,753	558,106				65,320		
Park	21,371,025	4,923,466						
Platte								162,187
Sheridan	183,928		2,922,014					
Sublette	1,553,027	37,115,648						
Sweetwater	8,820,056	91,672,428	9,326,761	385,196			10,542,417	
Teton								
Uinta	11,380,840	113,679,953						
Washakie	1,871,177	2,328,655						
Weston	2,852,569	1,593,794				46,977 154,751		
Total	110,420,981	395,656,547	107,902,764	3,049,068	2,478,371	2,183,865	10,542,417	327,642

1984 Assessed Valuation
on
1983 Production

County	Oil	Gas	Coal	Uranium	Iron Ore	Bentonite	Trona	Misc.	Total
Albany	3,850,475							835,224	4,715,214
Big Horn	120,448,940	6,359,299				1,891,719			129,233,521
Campbell	588,720,660	66,788,168	658,110,780					122,948	1,313,742,556
Carbon	65,642,628	140,677,065	126,709,025	31,462,628				388,358	364,879,704
Converse	168,327,486	29,278,321	13,383,095	8,966,381				284,549	220,239,832
Crook	81,439,037	20,526				5,669,485			87,416,100
Fremont	146,344,073	179,911,049		8,156,276	7,435,113			210,861	342,057,372
Goshen	455,031							207,484	662,515
Hot Springs	196,814,952	617,156	778,096			217,796			198,483,350
Johnson	73,372,145	1,927,942				739,922			76,262,919
Laramie	11,314,085							1,767,431	13,081,516
Lincoln	8,972,770	94,767,928	79,611,688					214,618	183,567,034
Natrona	207,241,481	21,788,770		2,220,953		329,870			232,070,629
Niobrara	34,243,696	1,477,112						596,834	36,317,642
Park	516,936,805	13,119,504							530,734,962
Platte								1,425,928	1,425,928
Sheridan	5,430,457		68,926,516					138,725	74,446,134
Sublette	46,159,909	78,318,765						33,451	124,512,125
Sweetwater	254,396,894	254,309,594	203,528,935	30,816			104,500,003	158,871	816,925,113
Teton								120,020	120,020
Uinta	322,091,117	362,100,919						626,048	684,818,084
Washakie	48,162,698	1,781,238				126,838			50,143,418
Weston	86,053,595	5,028,921				771,191			91,930,504
Total	2,986,418,934	1,258,272,277	1,151,048,135	50,837,054	7,435,113	9,746,821	104,500,003	9,521,855	5,577,786,192
% of Total	54	22	20	1	.02	.03	2	.03	

1984 Unit Valuation

County	Oil $/bbls	Gas $/MCF	Coal $/tons	Uranium $/tons	Iron Ore $/tons	Bentonite $/tons	Trona $/tons	Gypsum $/tons
Albany	27.09					4.28		1.85
Big Horn	24.65	2.88						3.00
Campbell	28.01	2.94	7.77					
Carbon	28.84	4.25	26.97	65.92				
Converse	29.76	3.02	6.15	7.33				
Crook	25.60	.28				4.70		
Fremont	25.99	4.09		10.45	3.00			
Goshen	29.80							
Hot Springs	24.81	2.51	17.25			3.75		
Johnson	28.18	2.84						
Laramie	30.08							
Lincoln	23.18	3.80	19.70					
Natrona	29.12	3.55		12.11		5.05		
Niobrara	29.37	2.65						
Park	24.19	2.66						3.00
Platte								
Sheridan	29.52		23.59					
Sublette	29.72	2.11						
Sweetwater	28.84	2.77	21.82	.08			9.91	
Teton								
Uinta	28.30	3.19						
Washakie	25.74	.76				2.70		
Weston	30.17	3.16				4.98		
State Average	27.04	3.18	10.67	16.67	3.00	4.46	9.91	2.94
Increase or Decrease	-$2.41	+$.04	-$.04	-$5.02	-$.050	+$0.36	-$2.16	+$0.12

Over

1984 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	146,587							13,176
Big Horn	5,223,277	1,687,091				949,113		159,730
Campbell	23,907,964	31,151,648	102,779,093					
Carbon	2,552,864	46,292,397	5,081,638	473,556				
Converse	8,098,349	10,502,161	2,675,630	542,662				
Crook	4,196,033	67,057				1,508,574		
Fremont	5,242,880	39,504,795		619,908				
Goshen	15,472							
Hot Springs	7,951,624	295,865	42,578					
Johnson	2,756,696	649,711				290,848		
Laramie	559,992	66,702						
Lincoln	552,456	28,101,192	4,070,071					
Natrona	6,906,009	7,512,429				30,033		
Niobrara	1,041,252	353,028						
Park	19,999,970	6,875,358				927		152,776
Platte	199							
Sheridan	176,783		2,531,470					
Sublette	1,535,363	39,347,573						
Sweetwater	9,027,839	99,164,942	8,750,975				10,971,209	
Teton								
Uinta	12,674,088	132,091,642						
Washakie	1,943,938	2,468,899				175,404		
Weston	2,779,933	1,482,805				128,425		
Total	117,289,568	447,615,295	125,931,455	1,634,262		3,083,324	10,971,209	225,682

1985 Assessed Valuation
on
1984 Production

County	Oil	Gas	Coal	Uranium	Iron Ore	Bentonite	Trona	Misc.	Total
Albany	3,799,760							985,447	4,785,207
Big Horn	127,436,160	4,818,245				4,289,489		583,214	137,127,108
Campbell	662,235,907	101,115,514	741,382,685					299,257	1,505,033,363
Carbon	71,758,227	205,245,306	129,817,519	19,050,265				281,196	426,152,513
Converse	236,842,608	33,233,768	15,919,999	663,365*				237,202	286,896,942
Crook	106,432,368	18,686				7,131,676		189,618	113,771,898
Fremont	135,586,297	152,070,988		2,037,271				151,539	289,846,095
Goshen	451,292							237,197	688,489
Hot Springs	195,430,483	796,383	742,986					36,026	197,005,878
Johnson	75,741,509	2,092,714				1,119,764		178,654	79,132,641
Laramie	16,270,544	143,464						2,224,427	18,638,435
Lincoln	13,336,422	110,741,244	82,099,203					112,201	206,289,070
Natrona	196,309,075	25,819,408				115,627		416,945	222,661,055
Niobrara	29,200,311	1,026,646						2,329,145	32,556,102
Park	476,860,428	21,776,213						635,573	499,272,214
Platte	5,929							1,537,383	1,543,312
Sheridan	4,962,760		64,411,755					121,408	69,495,923
Sublette	43,913,790	83,482,514						137,593	127,533,897
Sweetwater	254,065,361	265,003,530	196,543,308				95,792,777	558,708	811,963,684
Teton								82,987	82,987
Uinta	346,952,770	471,003,183						679,362	818,635,315
Washakie	49,520,424	1,686,133				410,960		47,553	51,665,070
Weston	81,051,919	4,656,864				1,037,003		104,162	86,849,948
Total	3,128,144,344	1,484,730,803	1,230,917,455	21,750,901*		14,108,737	95,792,777	12,162,129	5,987,627,146
% of Total	52	24.8	20.9	.3		.2	1.6	.2	

*Includes in-situ

1985 Unit Valuation

County	Oil $/bbls	Gas $/MCF	Coal $/tons	Uranium $/tons	Iron Ore $/tons	Bentonite $/tons	Trona $/tons	Gypsum $/tons
Albany	25.92							1.85
Big Horn	24.40	2.86				4.52		3.25
Campbell	27.70	3.25	7.21					
Carbon	28.11	4.43	25.55	40.23				
Converse	29.25	3.16	5.95	1.22				
Crook	25.37	.28				4.73		
Fremont	25.85	3.85		3.29				
Goshen	29.17							
Hot Springs	24.58	2.69	17.45					
Johnson	27.48	3.22				3.85		
Laramie	29.06	2.15						
Lincoln	24.14	3.94	20.17					
Natrona	28.43	3.44				3.85		
Niobrara	28.04	2.91						
Park	23.84	3.17						3.25
Platte	29.79							
Sheridan	28.07		25.44					
Sublette	28.60	2.12						
Sweetwater	28.14	2.67	22.46				8.73	
Teton								
Uinta	27.38	3.57						
Washakie	25.47	.68				2.51		
Weston	29.16	3.14				8.07		
State Average	26.67	3.32	9.77	13.31		4.58	8.73	2.95
Increase or Decrease Over	-.37	+.14	-.90	-3.36		+.12	-1.18	+.01

WYOMING MINERAL PRODUCTION ESTIMATES
1985-1989

1985 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	140,000							15,000
Big Horn	4,800,000	2,200,000				850,000		130,000
Campbell	23,000,000	35,000,000	110,000,000					
Carbon	2,300,000	53,000,000	4,000,000					
Converse	6,380,000	12,000,000	2,750,000	375,000				
Crook	3,200,000	100,000				1,500,000		
Fremont	5,985,000	45,000,000		400,000				
Goshen	15,000							
Hot Springs	8,000,000	250,000	50,000			50,000		
Johnson	2,600,000	750,000				300,000		
Laramie	350,000							
Lincoln	500,000	35,000,000	4,000,000					
Natrona	7,000,000	10,000,000				50,000		
Niobrara	1,200,000	600,000						
Park	20,000,000	8,000,000						105,000
Platte								
Sheridan	180,000		2,500,000					
Sublette	2,000,000	42,000,000						
Sweetwater	9,000,000	105,000,000	10,000,000				11,600,000	
Teton								
Uinta	13,650,000	142,000,000						
Washakie	1,900,000	2,500,000				150,000		
Weston	2,800,000	1,600,000				100,000		
Total	115,000,000	495,000,000	133,300,000	775,000		3,000,000	11,600,000	250,000

1986 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	140,000							15,000
Big Horn	4,800,000	2,200,000				850,000		135,000
Campbell	23,000,000	38,000,000	114,700,000					
Carbon	2,300,000	56,000,000	3,500,000					
Converse	5,880,000	12,000,000	3,750,000					
Crook	3,200,000	100,000				1,500,000		
Fremont	5,985,000	45,000,000		306,000				
Goshen	15,000							
Hot Springs	7,500,000	250,000	50,000					
Johnson	2,600,000	750,000				50,000		
Laramie	350,000					300,000		
Lincoln	500,000	42,000,000	4,000,000					
Natrona	6,500,000	10,000,000				50,000		
Niobrara	1,200,000	600,000						
Park	18,500,000	8,000,000						125,000
Platte								
Sheridan	180,000		2,500,000					
Sublette	2,000,000	48,000,000						
Sweetwater	9,000,000	106,000,000	10,500,000				12,000,000	
Teton								
Uinta	13,650,000	147,000,000						
Washakie	1,900,000	2,500,000				150,000		
Weston	2,800,000	1,600,000				100,000		
Total	112,000,000	520,000,000	138,000,000	306,000		3,000,000	12,000,000	275,000

1987 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	140,000							15,000
Big Horn	4,000,000	2,200,000				850,000		135,000
Campbell	23,000,000	40,000,000	116,950,000					
Carbon	2,300,000	56,000,000	2,750,000					
Converse	5,880,000	10,000,000	4,250,000			1,500,000		
Crook	3,000,000	100,000						
Fremont	5,985,000	50,000,000		366,000				
Goshen	15,000							
Hot Springs	7,000,000	250,000	50,000			50,000		
Johnson	2,600,000	750,000				300,000		
Laramie	350,000							
Lincoln	500,000	47,000,000	4,000,000					
Natrona	6,000,000	8,000,000				50,000		
Niobrara	1,200,000	600,000						
Park	17,500,000	8,000,000						125,000
Platte								
Sheridan	180,000		2,5000,000					
Sublette	2,000,000	50,000,000						
Sweetwater	9,000,000	106,000,000	10,500,000				12,000,000	
Teton								
Uinta	13,650,000	151,000,000						
Washakie	1,900,000	2,500,000				150,000		
Weston	2,800,000	1,600,000				100,000		
Total	109,000,000	534,000,000	140,250,000	366,000		3,000,000	12,000,000	275,000

1988 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	140,000							20,000
Big Horn	3,000,000	2,200,000				850,000		150,000
Campbell	24,000,000	43,000,000	117,700,000					
Carbon	2,300,000	57,000,000	2,000,000					
Converse	4,380,000	10,000,000	5,000,000					
Crook	3,000,000	100,000				1,500,000		
Fremont	5,985,000	75,000,000		411,000				
Goshen	15,000							
Hot Springs	7,000,000	15,250,000	50,000			50,000		
Johnson	2,600,000	750,000				300,000		
Laramie	350,000							
Lincoln	500,000	80,000,000	4,000,000					
Natrona	5,500,000	8,000,000				50,000		
Niobrara	1,200,000	600,000						
Park	16,500,000	11,000,000						130,000
Platte								
Sheridan	180,000		2,500,000					
Sublette	2,000,000	80,000,000						
Sweetwater	9,000,000	114,000,000	10,500,000				12,125,000	
Teton								
Uinta	13,650,000	165,000,000						
Washakie	1,500,000	2,500,000				150,000		
Weston	2,500,000	1,600,000				100,000		
Total	105,300,000	668,000,000	143,000,000	411,000		3,000,000	12,125,000	300,000

1989 Production

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Tons)	Iron Ore (Tons)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	140,000							20,000
Big Horn	2,000,000	2,200,000				850,000		150,000
Campbell	24,000,000	43,000,000	120,700,000					
Carbon	2,300,000	57,000,000	2,000,000					
Converse	3,880,000	10,000,000	5,000,000					
Crook	3,000,000	100,000				1,500,000		
Fremont	5,985,000	80,000,000		420,000				
Goshen	15,000					50,000		
Hot Springs	7,000,000	18,250,000	50,000			300,000		
Johnson	2,600,000	750,000						
Laramie	350,000							
Lincoln	500,000	86,000,000	4,500,000					
Natrona	5,000,000	8,000,000				50,000		
Niobrara	1,200,000	2,600,000						
Park	16,200,000	12,000,000						130,000
Platte								
Sheridan	180,000							
Sublette	2,000,000	87,000,000						
Sweetwater	9,000,000	119,000,000	10,500,000				12,200,000	
Teton								
Uinta	13,650,000	170,000,000						
Washakie	1,500,000	2,500,000				150,000		
Weston	2,500,000	1,600,000				100,000		
Total	103,000,000	700,000,000	143,000,000	420,000		3,000,000	12,200,000	300,000

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